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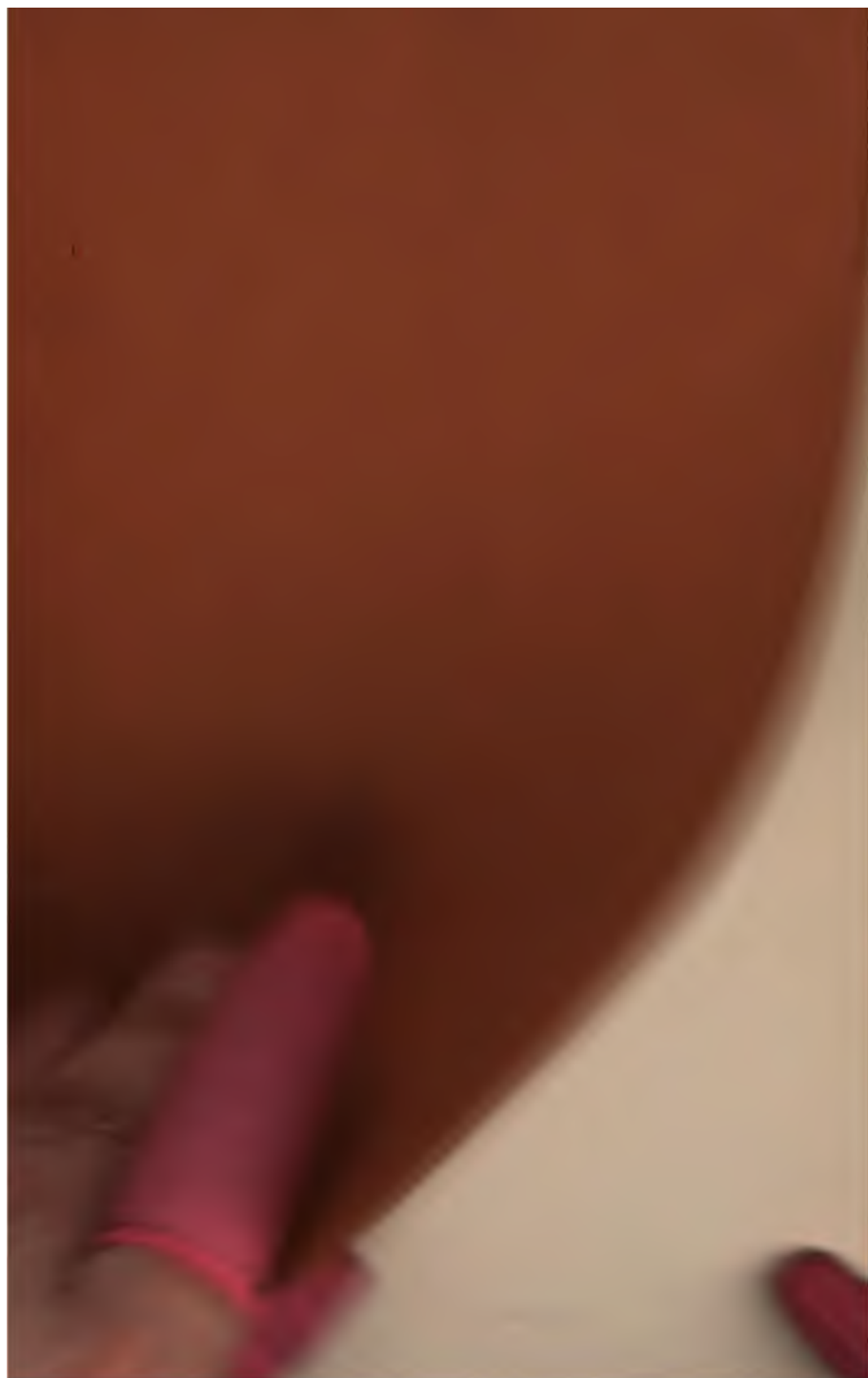
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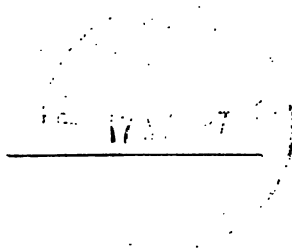
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CATALOGUE
OF THE REMAINS OF
SIWALIK VERTEBRATA.

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CATALOGUE
OF THE REMAINS OF
SIWALIK VERTEBRATA
CONTAINED IN
THE GEOLOGICAL DEPARTMENT
OF
THE INDIAN MUSEUM,
CALCUTTA.
PART I.
MAMMALIA.

BY
RICHARD LYDEKKER, B.A., F.G.S., ETC.



CALCUTTA:
PRINTED BY THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.

1885.
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INTRODUCTION.

Object and extent.—The present catalogue comprises all the more important specimens and casts of vertebrate remains from the Siwaliks of India and Burma contained in the Indian Museum. All the specimens, except duplicates, which can be specifically, and many of those which can only be generically, determined have been included; but it has been felt that it would be merely a useless incumbrance to include all those specimens of which the genus, and in many cases even the family, cannot be determined with any approach to certainty. As a large number of the more interesting specimens have been described and figured in the 10th series of the '*Palæontologia Indica*' it has been held unnecessary to make this catalogue a descriptive one; its object being to afford an index to the specimens contained in the Museum, and thus supplement the information given in the '*Palæontologia Indica*.' In a few instances, however, where very interesting specimens have not been figured, a short notice of some of their characteristics is given. References are in all cases given to the plates where individual specimens are figured; and as in some cases the original determinations of such specimens figured in the '*Palæontologia Indica*' have been found erroneous, this catalogue cites the specimens under their new title. Under the distinctive number of each figured specimen the word *Fig.* is printed, in order to facilitate reference. The list of numbers at the end will enable any student working at the collection at once to find the specific determination of any individual specimen.

Upper and Lower Siwalik.—All the specimens recorded from Sind, Kach, Dera Búgti, and the Búgti Hills, are from the Lower Siwaliks; those from the typical Siwalik Hills, Burma, and Perim Island are probably all Upper Siwalik; while those from the Punjab not improbably comprise a mixture of Upper and Lower Siwalik forms.

Homology of teeth.—All the teeth of mammals are here referred to their respective position in the typical heterodont eutherian series. As in the first volume of the 10th series of the '*Palæontologia Indica*' the milk and premolar teeth of the Proboscidea were not numbered in accordance with this system,

their serial numbers are different from those which they bear here. The difference consists in each tooth being reckoned one place further back, thus mm. 1 in vol. I=mm. 2 here; mm. 2=mm. 3; and mm. 3=mm. 4.

Origin of the collection.—The magnificent Siwalik collection of the Indian Museum (which is only equalled by that of the British Museum, and contains many types unknown to the latter) has been gathered from various sources, the most important of which are as follows :¹—

- 1.—A large collection of specimens from the typical Siwalik Hills, Perim Island (Gulf of Cambay), and Burma, originally belonging to the Asiatic Society of Bengal, and transferred to the Indian Museum in 1875. These specimens (together with others from the Narbada) have been already catalogued by Falconer and Walker²; but as a very large proportion of them consists of generically undeterminable limb-bones and vertebræ, only a small moiety has been introduced into this catalogue. These specimens have been renumbered, but in many cases the numbers borne by them in Falconer's and Walker's catalogue have been added.³ The specimens belonging to this and the next series are referred to in the sequel as the '*A. S. B. Collection.*'
- 2.—A series of casts of typical specimens mainly in the collection of the British Museum, presented to the Asiatic Society of Bengal by the Court of Directors of the Honourable East India Company, and transferred to the Museum with the last series. Only the more important specimens have been catalogued.
- 3.—A few specimens of teeth from Khushálgarh, on the Indus below Attock, collected by Lieutenants Garnett and Trotter previously to 1858, and presented to the Survey.
- 4.—Some specimens collected by Colonel H. H. Godwin-Austen in the Siwalik Hills, and presented to the Survey in 1865.

¹ The Calcutta specimens of teeth are usually much more beautifully preserved than those in the British Museum, owing to the soft nature of the sandstone in which many of the specimens from the Punjab are embedded.

² 'Descriptive Catalogue of the Fossil Remains of Vertebrata from the Siwalik Hills, &c., in the Museum of the Asiatic Society of Bengal' 8vo., Calcutta, 1859.

³ The writer having compiled this catalogue in England from a M.S. rough copy has been unable to give these numbers in all instances.

- 5.—A small series of specimens from various localities acquired by the Museum previously to 1874, or transferred from the Asiatic Society of Bengal without history. Many of these specimens were collected by officers of the Survey. These specimens are entered in the sequel as having no history.
- 6.—A very large series collected by Mr. William Theobald, late Deputy Superintendent of the Survey, between the years 1873 and 1881. This series is the most important in the whole collection, and was chiefly obtained from the Punjab, although a considerable moiety came from the western part of the typical Siwalik Hills.
- 7.—An important series collected by Mr. W. T. Blanford, late Senior Deputy Superintendent of the Survey, and Mr. F. Fedden, of the Survey, from the Lower Siwaliks of Sind and Kach.
- 8.—A small series obtained by Mr. A. B. Wynne, late of the Survey, from the Punjab; mainly between the years 1873 and 1878.
- 9.—A few specimens collected by Mr. Fedden in 1881 from Perim Island.
- 10.—Some specimens obtained by exchange with the Museums at Lahore and Rûrki between the years 1879 and 1881.
- 12.—Some specimens collected by the late Dr. Verchère in the Derajât district (Punjab) and presented to the Museum by his executors in 1879.
- 13.—A small but very interesting series collected by Mr. W. T. Blanford in the Bûgti Hills and Dera Bûgti during the winter of 1881-82.
- 14.—A series of casts of specimens in the British Museum, purchased at various times between 1878 and 1882.
- 15.—A few casts obtained by exchange with the Museum of the Royal College of Surgeons in 1881.
- 16.—A small collection from Perim Island made by the late Dr. Wilson of Bombay, and presented by Captain Searle, Superintendent of Marine, Calcutta, in 1882 (See Rec. Geol. Surv., Ind. vol. XV., pp. 104-5 [1882]).
- 17.—A few casts of specimens which were in the Museum of the Survey before 1874, but of which there is no record as to how they were obtained.

Abbreviations.—The abbreviations of serials are the same as those employed in the 'Geological Record' for 1878, and in

Part I of the writer's "Catalogue of the Fossil Remains of Mammalia in the British Museum" (London, 1885). The following only require notice here: *F. A. S.*=Falconer and Cautley's "Fauna Antiqua Sivalensis," (London 1846 to 1849.)

Pal. Mem. or Palæontological Memoirs=Murchison's "Palæontological Memoirs, &c., of Hugh Falconer" (London, 1868).

Pal. Ind.=Palæontologia Indica (Mem. Geol. Surv. Ind.).

RICHARD LYDEKKER.

THE LODGE, HARPENDEN,
HERTFORDSHIRE.

June 1885.

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CATALOGUE
OF
SIWALIK VERTEBRATA.

Class **MAMMALIA.**

Order **PRIMATES.**

Suborder **ANTHROPOIDEA.**

Family **SIMIIDÆ.**

Genus **PALÆOPITHECUS**, **Lyd.**

'Rec. Geol. Surv. Ind.,' vol. xii., p. 33 (1879).

Palæopithecus sivalensis, **Lyd.**

'Rec. Geol. Surv. Ind.,' vol. xii., p. 33 (1879).

- D. 1.** The palate; from Jabi, Punjab. This specimen is the type
Fig. and is figured in the 'Records' vol. xii., plate facing p. 52,
figs. 1, 5. *Collected by Mr. Theobald.*

Family **CERCOPITHECIDÆ.**

Genus **MACACUS**, **Cuv. and Geoff.**

'Magasin Encyclopédique' (1795), (*teste* Geoff.). *Macaque.*

Macacus sivalensis, **Lyd.**

'Rec. Geol. Surv. Ind.,' vol. xi., p. 70 (1878).

- D. 2.** Two fragments of the maxilla; from Asnot, Punjab. These
Fig. specimens are the types and are figured in the xiith volume
of the 'Records,' plate facing p. 52, figs. 2, 4.

Collected by Mr. Theobald.

Genus **CYNOCEPHALUS**, **Lacépède.**

"Nouv. Tab. Meth." (1799), in 'Mem. de l'Institut,' vol. iii.,
p. 490 (1801).

Cynocephalus subhimalayanus (H. v. Meyer).

Syn. *Semnopithecus subhimalayanus*, H. v. Meyer.

In Bronn's "Index Palæontologicus," p. 1133 (1848).

- D. 3. Cast of the anterior portion of the right maxilla and premaxilla. The original, which is the type, is from the Siwalik Hills, and is in the British Museum (No. 31157). It is figured in the 'Pal. Mem.,' vol. i., pl. xxiv., figs. 1, 2, and is referred to the present genus in the writer's "Catalogue of Fossil Mammalia in the British Museum," part i., p. 4 (1885). *A. S. B. Collection.*

Cynocephalus, sp., Lyd.

"Catalogue of Fossil Mammalia in the British Museum," part i., p. 6 (1885).

- D. 4. Cast of the mandible. The original is from the Siwalik Hills, and is in the British Museum (No. 15709); it is figured in the 'Pal. Mem.,' vol. i., pl. xxiv., figs. 3, 4.

A. S. B. Collection.

Order CARNIVORA.

Suborder CARNIVORA VERA.

Family FELIDÆ.

Genus MACHÆRODUS, Kaup.

"Oss. Foss. de Darmstadt," pt. 2, p. 24 (1833), (*Machairodus*).

Machærodus sivalensis (Falc. and Caut.).

Syn. *Drepanodon sivalensis*, Falc. and Caut.

"Palæontological Memoirs," vol. i., p. 550 (1868).

- D. 100. Part of the right ramus of the mandible; from the Siwalik Hills.
Fig. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xlv., fig. 5.
By exchange with the Rérki Museum.
- D. 105. The right upper canine; from the Punjab. Figured in the
Fig. 'Pal. Ind.' ser. 10, vol. ii., pl. xlv., fig. 6.
Collected by Mr. Theobald.
- D. 63. Occipital part of the cranium; from near Hoshiarpur. Figured
Fig. in the 'Pal. Ind.' ser. 10, vol. ii., p. 340.
Collected by Mr. Theobald.

- D. 64-5. Casts of two fragments of the maxilla. The originals are from the Siwalik Hills, and are in the British Museum (Nos. 16350, 39730); they are figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xlv., figs. 1, 2. *Purchased.*
- D. 66-8. Casts of the three fragments of the mandible. The originals are from the Siwalik Hills, and are in the British Museum (Nos. 16557, 16554); the first is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xlv., fig. 4. *Purchased.*

***Machærodus palæindicus*, Bose.**

'Quart. Journ. Geol. Soc.,' vol. xxxvi., p. 825 (1880).

- D. 104. The third left upper incisor; from Asnot, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xliii., fig. 9. *Collected by Mr. Theobald.*

- D. 61-62. Casts of part of crania. The originals are in the British Museum (Nos. 39728-39729). *A. S. B. Collection.*

Genus *FELIS*, Linn.

"Syst. Nat." ed. 12, vol. i., p. 61 (1766).

***Felis cristata*, Falc. and Caut.**

"Asiatic Researches," vol. xix., p. 135 (1836).

Syn. *F. grandicristata*, Bose.

- D. 72. Cast of the cranium. The original is from the Siwalik Hills, and is in the Museum of the Royal College of Surgeons (No. 358); it is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xliii. *A. S. B. Collection.*
- D. 71. Cast of the hinder half of the cranium. The original (which is the type of *F. grandicristata*) is from the Siwalik Hills, and is in the British Museum (No. 49176); it is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xl., fig. 2. *A. S. B. Collection.*
- D. 73. Cast of an imperfect cranium. The original is from the Siwalik Hills, and is in the British Museum (No. 49176); it is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xl., fig. 1. *A. S. B. Collection.*

***Felis* (? *Cynælurus*) *brachygnatha*, Lyd.**

'Pal. Ind.' ser. 10, vol. ii., p. 326 (1884).

- D. 69-70. Casts of two fragments of the mandible. The originals are from the Siwalik Hills, and are in the British Museum (Nos. 16537, 16573); they are figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xliii., figs. 1, 2. *Purchased.*

Felis, sp., Lyd. (allied to *F. lynx*).

'Pal. Ind.' ser. 10, vol. ii., p. 329 (1884).

- D. 90. Anterior portion of the left ramus of the mandible, containing
Fig. the two premolars; from Jabi, Punjab. Figured in the 'Pal.
 Ind.' ser. 10, vol. ii., pl. xliii., fig. 7.

Collected by Mr. Theobald.

Felis, sp.

- D. 77. A right lower canine; from the Punjab. Figured in the 'Pal.
Fig. Ind.' ser. 10, vol. ii., pl. xliii., fig. 3.

Collected by Mr. Theobald.

The following specimens are not generically determined.

- D. 78. The distal half of the right femur; from the Punjab. Figured
Fig. in the 'Pal. Ind.' ser. 10, vol. ii., pl. xlv., fig. 2.

Collected by Mr. Theobald.

- D. 75. The proximal extremity of the right ulna; from Asnot, Punjab.
Fig.

Collected by Mr. Theobald.

- D. 79. The patella; from the Punjab. Figured in the 'Pal. Ind.' ser.
Fig. 10, vol. ii., pl. xlv., fig. 4.

Collected by Mr. Theobald.

- D. 80. The right calcaneum; from the Punjab. Figured in the 'Pal.
Fig. Ind.' ser. 10, vol. ii., pl. xlv., fig. 6.

Collected by Mr. Theobald.

- D. 81-5. Four associated broken metapodials and a first phalangeal;
 from Jabi, Punjab.

Collected by Mr. Theobald.

- D. 86. A first phalangeal; from the Punjab. Figured in the 'Pal.
Fig. Ind.' ser. 10, vol. ii., pl. xliii., fig. 10.

Collected by Mr. Theobald.

- D. 87. A lateral metapodial; from the Punjab.

Collected by Mr. Theobald.

- D. 88. A caudal vertebra; from the Punjab.

Collected by Mr. Theobald.

- D. 89. A late caudal vertebra; from the Punjab.

Collected by Mr. Theobald.

- D. 91. A left calcaneum; from Jabi, Punjab. Figured in the 'Pal.
Fig. Ind.' ser. 10, vol. ii., pl. xlv., fig. 7.

Collected by Mr. Theobald.

- D. 92. The distal extremity of a radius; from Asnot, Punjab.
Collected by Mr. Theobald.
- D. 93. The proximal extremity of a radius; from Asnot, Punjab.
Collected by Mr. Theobald.
- D. 94. The proximal extremity of an ulna; from Asnot, Punjab.
Collected by Mr. Theobald.

Genus **ÆLUROGALE**, Filhol.

'Ann. Sci. Géol.' vol. iii., art. 7, p. 14 (1872).

Ælurogale sivalensis, Lyd.

Syn. *Pseudælurus sivalensis*, Lyd.

'Rec. Geol. Surv. Ind.,' vol. x., p. 83 (1877).

- D. 95. The right ramus of the mandible, showing the carnassial, and
Fig. the sockets of the other teeth; from the Punjab. Figured in
 the 'Pal. Ind.' ser. 10, vol. ii., pl. xlv., fig. 7 (*type*).
Collected by Mr. Theobald.

Genus **ÆLUROPSIS**, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 316 (1884).

Æluropsis annectans, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 316 (1884).

- D. 41. Part of the right ramus of the mandible, with $\overline{\text{pm. 4.}}$ $\overline{\text{m. 1.}}$
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Collected by Mr. Theobald.

Family HYÆNIDÆ.

Genus **HYÆNA**, Zimm.

"Specimen Zoologicæ Geographicæ," p. 365 (1777).

Hyæna felina, Bose.

- "Quart. Journ. Geol. Soc.," vol. xxxvi., p. 130 (1880).
- D. 48. Cast of the cranium. The original is from the Siwalik
 Hills, and is in the British Museum (No. 15902). It is
 figured by Bose in the memoir cited. *A. S. B. Collection.*
- D. 102. The left ramus of the mandible of an immature individual;
Fig. from near Jamu. Figured in the 'Pal. Ind.' ser. 10, vol. ii.,
 pl. xxxviii., fig. 1, and xxxix., fig. 1.
Collected by Mr. Theobald.

- D. 50. Part of the right ramus of a mandible provisionally referred to the present species; from the Siwalik Hills. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxxix., fig. 3.
A. S. B. Collection (No. S. 849).
- D. 55. Outer upper incisor, provisionally referred to the present species; from Asnot, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxxv., fig. 3. *Collected by Mr. Theobald.*

Hyæna colvini, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 290 (1884).

- D. 47. Anterior portion of the cranium; from the Siwalik Hills. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxxv., fig. 2 (*type*).
A. S. B. Collection (No. S. 848).
- D. 45. The cranium of an immature individual; from the Siwalik Hills. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxxv., fig. 1, pl. xxxvi., fig. 1. *A. S. B. Collection (No. S. 847).*
- D. 46. Part of the left maxilla of a young individual, showing the carnassial *in alveolo*; from the Kangra district. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxxv., fig. 5.
Collected by Mr. Theobald.
- D. 101. Fragment of the left maxilla, with the last three teeth; from the Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxxv., fig. 4.
Collected by Mr. Theobald.
- D. 51. Fragment of the left ramus of the mandible, with $\overline{\text{pm. 4}}$ and $\overline{\text{m. 1}}$; from the Siwalik Hills. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxxviii., fig. 3, pl. xxxix., fig. 4.
A. S. B. Collection (No. S. 851).

Hyæna sivalensis, Bose.

'Quart. Journ. Geol. Soc.,' vol. xxxvi., p. 128 (1880).

- D. 49. Cast of the cranium. The original, which is the type, is in the British Museum (No. 37133), and came from the Siwalik Hills; it is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxxiv.
A. S. B. Collection.
- D. 53. Hinder portion of the right ramus of the mandible, with $\overline{\text{pm. 4 m. 1}}$ and the alveolus of $\overline{\text{m. 2}}$; from Asnot, Punjab. Figured in the 'Pal. Ind.' *op. cit.* pl. xxxviii., fig. 2, pl. xxxix., fig. 5.
Collected by Mr. Theobald.

Hyæna macrostoma, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 298 (1884).

- D. 44. Cranium; from Jabi, Punjab. This specimen is the type;
Fig. and is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxxvii.
Collected by Mr. Theobald.
- D. 52. Anterior part of the left ramus of the mandible; from Jabi.
Fig. Figured in the 'Pal. Ind.' *op cit.* pl. xxxviii., fig. 4,
 pl. xxxix., fig. 6. *Collected by Mr. Theobald.*
- D. 56. Part of the left upper carnassial; from Asnot, Punjab.
Collected by Mr. Theobald.

Hyæna, sp. non det.

- D. 54. Third left upper incisor; from Asnot.
Collected by Mr. Theobald.
- D. 58. An upper premolar; from Asnot.
Collected by Mr. Theobald.
- D. 59-60. Casts of maxillæ. The originals are from the Siwalik Hills,
 and are in the British Museum. *A. S. B. Collection.*

Genus LEPHTHYÆNA, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 312 (1884).

Lepthyæna sivalensis, Lyd.

Syn. Ictitherium sivalense, Lyd.

'Rec. Geol. Surv. Ind.,' vol. x., p. 32 (1877).

- D. 38. The greater part of the mandible; from Asnot, Punjab.
Fig. This specimen is the type, and is figured in the 'Pal. Ind.'
 ser. 10, vol. ii., pl. xlv., figs. 8, 9.
Collected by Mr. Theobald.

Family VIVERRIDÆ.**Genus VIVERRA, Linn.**

'Syst. Nat.,' ed. 12, vol. i., p. 63 (1766).

Viverra bakeri, Bose.

"Quart. Journ. Geol. Soc.," vol. xxxvi., p. 131 (1880).

- D. 42. Cast of the cranium. The original, which is the type, is from
 the Siwalik Hills, and is in the British Museum (No.

40183) ; it is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxxiii., fig. 1. *A. S. B. Collection.*

Viverra durandi, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 271 (1884).

- D. 43. Cast of the anterior part of the cranium. The original is from the Siwalik Hills, and is in the British Museum (No. 37150) ; it is figured in the 'F. A. S.' pl. Q., fig. 2. *A. S. B. Collection.*

Family **URSIDÆ**.

Subfamily **CANINÆ**.

Genus **CANIS**, Linn.

'Syst. Nat.', ed. 12, vol. i., p. 56 (1766).

Canis cautleyi, Bose.

'Quart. Journ. Geol. Soc.', vol. xxxvi., p. 135 (1880).

- D. 35. Fragment of the left maxilla ; from Dádúpúr, Siwalik Hills.
Fig. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxxii., fig. 3. *A. S. B. Collection (No. S. 852).*
- D. 36. Two specimens of the proximal extremity of the femur of a *Canis* ; from the Punjab. *Collected by Mr. Theobald.*
- D. 37. The distal extremity of the femur ; from the Punjab. *Collected by Mr. Theobald.*

Genus **AMPHICYON**, Lartet.

'Comptes Rendus,' vol. v., p. 424 (1837).

Amphicyon palæindicus, Lyd. (*ex. Falc. MS.*).

'Pal. Ind.' ser. 10, vol. i., p. 84 (1876).

- D. 26. Second right upper true molar ; from Khushálgarh, Punjab.
Fig. This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxxii., fig. 8. *Presented by Lieuts. Garnett and Trotter.*
- D. 23. Fragment of the mandible, with the milk and permanent carnassials ; from Núrpúr. Figured in the 'Pal. Ind.' *op. cit.* fig. 5. *Collected by Mr. Medlicott.*

- D. 24. Two fragments of the lower carnassial; from Sind.
Collected by Mr. Blanford.
- D. 25. Fragment of the mandible, with $\overline{m. 2}$; from Sind. Figured
Fig. in the 'Pal. Ind.' *op. cit.* fig. 4. *Collected by Mr. Fedden.*
- D. 27. A metapodial; from Sind. *Collected by Mr. Fedden.*

Subfamily URSINÆ.

Genus **HYÆNARCTOS**, Falc. and Caut.

In Owen's 'Odontography,' p. 505 (1840-45).

Hyænarctos palæindicus, Lyd.

'Rec. Geol. Surv. Ind.,' vol. xi., p. 104 (1878).

- D. 16. Part of the right maxilla, with last three teeth; from the
Fig. Punjab. This specimen is the type, and is figured in the
 'Pal. Ind.' ser. 10, vol. ii., pl. xxx., fig. 1.
Collected by Mr. Theobald.
- D. 9. Fragment of the left ramus of the mandible, with $\overline{m. 2}$; from
Fig. Jabi, Punjab; figured in the 'Pal. Ind.' *op. cit.* pl. xxxi.,
 fig. 3. *Collected by Mr. Theobald.*
- D. 10. Fragment of the right ramus of the mandible, with $\overline{pm. 4}$ and
Fig. $\overline{m. 1}$; from Jabi. Figured in the 'Pal. Ind.' *op. cit.* fig. 2.
Collected by Mr. Theobald.
- D. 11. The right upper canine; from Jabi, Punjab. Figured in the
Fig. 'Pal. Ind.' *op. cit.* pl. xxx., fig. 3. *Collected by Mr. Theobald.*

Hyænarctos punjabiensis, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 226 (1884).

- D. 6. Last premolars and first two molars of the upper jaw; from
Fig. Asnot, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. ii.,
 pl. xxx., fig. 2. *Collected by Mr. Theobald.*
- D. 8. The mandible; from Asnot. This specimen, which is the type,
Fig. is figured in the 'Pal. Ind.' *op. cit.* pl. xxxi., fig. 1.
Collected by Mr. Theobald.
- D. 12. Portion of the left maxilla, with last three teeth; from Asnot.
Fig. The last tooth is figured in the 'Pal. Ind.' *op. cit.* p. 228
 (woodcut). *Collected by Mr. Theobald.*

Hyænarctos sivalensis, Falc. and Caut.Syn. *Ursus sivalensis*, Falc. and Caut.

'Asiatic Researches,' vol. xix., p. 193 (1836).

- D. 5. Cast of the cranium. The original, which is the type, is from the Siwalik Hills, and is in the British Museum (No. 39721); it is figured in the 'F. A. S.' pl. O., fig. 1, and the dentition in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxx., fig. 5.

A. S. B. Collection.

- D. 7. Cast of the right ramus of the mandible. The original is from the Siwalik Hills, and is in the British Museum (No. 39722); it is figured in the 'F. A. S.' pl. O., fig. 2.

A. S. B. Collection.

- D. 14. Cast of the right femur. The original is from the Siwalik Hills, and is in the British Museum (No. 39723); it is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxix., fig. 1.

A. S. B. Collection.

- D. 15. Cast of the right radius and ulna. The original is from the Siwalik Hills, and is in the British Museum (Nos. 39725-6); it is figured in the 'F. A. S.' pl. O., fig. 4.

*A. S. B. Collection.**The following specimens are generically undetermined.*

- D. 18. A lower (?) canine; from Pegu. Figured in the 'Pal. Ind.' Fig. ser. 10, vol. ii., pl. xxx., fig. 4.

Collected by Mr. Blanford.

- D. 106. A canine; from the Búgti Hills.

Collected by Mr. Blanford, 1882.

- D. 28. Fragment of symphysis; from Sind. *Collected by Mr. Fedden.*

Genus URSUS, Linn.

'Syst. Nat.,' ed. 12, vol. i., p. 69 (1766).

Ursus theobaldi, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 211 (1884).

- D. 17. Cranium, with the teeth hammered off; from the Kangra district. This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxviii., figs. 1, 2.

Collected by Mr. Theobald.

Family MUSTELIDÆ.

Genus MELLIVORA, Storr.

'Prodromus Method. Mam.,' p. 34 (1780).

Mellivora sivalensis, Falc. and Caut.

Syn. *Ursitaxus sivalensis*, Falc. and Caut.

'Pal. Memoirs,' vol. i., p. 553 (1868).

- D. 19. Cast of the cranium. The original, which is the type, is from the Siwalik Hills, and is in the British Museum (No. 40184); it is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxvi.

A. S. B. Collection.

Mellivora punjabiensis, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 183 (1884).

- D. 20. Part of the right ramus of the mandible; from Asnot, Punjab.

Fig. This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxvii., fig. 6.

Collected by Mr. Theobald.

Genus MELLIVORODON, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 185 (1884).

Mellivorodon palæindicus, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 185 (1884).

- D. 21. Part of the left ramus of the mandible; from Asnot, Punjab.

Fig. This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxvii., fig. 7.

Collected by Mr. Theobald.

- D. 22. Fragment of the left ramus of the mandible, with $\overline{m}2$;

Fig. from Niki, Punjab. Figured in the 'Pal. Ind.' *op. cit.* fig. 8.

Collected by Mr. Theobald.

Genus LUTRA, Erxl. (*ex* Ray).

'Syst. Regn. Animal,' p. 445 (1777).

Lutra palæindica, Falc. and Caut.

'Pal. Memoirs,' vol. i., pl. xxvii. (1868).

- D. 31. Cast of the cranium. The original, which is the type, is from the Siwalik Hills, and is in the British Museum (No. 37151); it is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxvii., fig. 1.

A. S. B. Collection.

- D. 32. Cast of the left ramus of the mandible. The original is from the Siwalik Hills, and is in the British Museum (No. 37152); it is figured in the 'Pal. Ind.' *op. cit.* fig. 2.

A. S. B. Collection.

Lutra bathygnatha, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 1893 (1884).

- D. 33. Part of the left ramus of the mandible; from the Punjab. This *Fig.* specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxvii., fig. 3. *Collected by Mr. Theobald.*
- D. 34. Proximal extremity of the left ramus of the mandible; from *Fig.* the Punjab. Figured in the 'Pal. Ind.' *op. cit.* fig. 4. *Collected by Mr. Theobald.*

Lutra sivalensis (Falc. and Caut.).

Syn. *Enhydriodon sivalensis*, Falc. and Caut.

'Palæontological Memoirs,' vol. i., p. 331 (1868).

- D. 103. Cast of the palatal portion of the cranium. The original is from the Siwalik Hills, and is in the Museum of the Royal College of Surgeons (No. 777 A); it is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxvii., fig. 5.

By exchange with the Museum of the Royal College of Surgeons.

- D. 29-30. Three casts of imperfect crania. The originals, which are the types, are from the Siwalik Hills, and are in the British Museum; they are figured in the 'Pal. Mem.' vol. i., pl. xxvii. *A. S. B. Collection.*

Suborder CARNIVORA PRIMIGENIA.

Family HYÆNODONTIDÆ.

Genus **HYÆNODON**, Laizer and Parieu.

'Comptes Rendus,' vol. vii., p. 442 (1838).

Hyænodon indicus, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 349 (1884).

- D. 57. The fourth left lower premolar; from Khushálgarh, Punjab. *Fig.* This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. ii., p. 349 (woodcut.)

Presented by Lieuts. Garnett and Trotter.

- D. 76. Two specimens of the third lower true molar provisionally
Fig. referred to this species; from the Punjab. Figured in the
 'Pal. Ind.' ser. 10, vol. ii., pl. xliii., figs. 5, 6.

Collected by Mr. Theobald.

Order RODENTIA.

Suborder SIMPLICIDENTATA.

Family SPALACIDÆ.

Genus RHIZOMYS, Gray.

'Proc. Zool. Soc.,' 1831, p. 95.

Rhizomys sivalensis, Lyd.

'Rec. Geol. Surv. Ind.,' vol. xi., p. 101 (1878).

Syn. (?) *Typhlodon*, Falc. MS.

- D. 97. Three rami of the mandible; from Jabi, Punjab. These
Fig. specimens are the types, and are figured in the 'Pal. Ind.'
 ser. 10, vol. iii., p. 106. *Collected by Mr. Theobald.*

- D. 98. The left calcaneum; from the Punjab. Figured in the 'Pal.
Fig. Ind.' *op. cit.* p. 107. *Collected by Mr. Theobald.*

Family HYSTRICIDÆ.

Genus HYSTRIX, Linn.

'Syst. Nat.,' ed. 12, vol. i., p. 76 (1766).

Hystrix sivalensis, Lyd.

'Rec. Geol. Surv. Ind.,' vol. xi., p. 100 (1878).

- D. 96. Part of the right ramus of the mandible; from Asnot, Punjab.
Fig. This specimen is the type, and is figured in the 'Pal. Ind.'
 ser. 10, vol. iii., p. 109. *Collected by Mr. Theobald.*

Order UNGULATA.

Suborder *ARTIODACTYLA*.Family BOVIDÆ.¹Genus **BOS**, Linn.

'Syst. Nat.' ed. 12, vol. i., p. 98 (1766).

Bos acutifrons, Lyd.

'Rec. Geol. Surv. Ind.,' vol. x., p. 30 (1877).

- B. 234.** The frontlet; from Padri. This specimen is the type, and is
Fig. figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xii., fig. 1,
 pls. xiii. & xvi., fig. 2. *Collected by Mr. Theobald, 1876.*

- B. 297.** Two specimens of the atlas vertebra provisionally referred
 to this species; from the Kangra district.
Collected by Mr. Theobald, 1876.

Bos planifrons, Lyd.

'Rec. Geol. Surv. Ind.,' vol. x., p. 30 (1877).

- B. 235.** Two frontlets; from the Kangra district. One specimen is
Fig. the type, and is figured in the 'Pal. Ind.' ser. 10, vol. i.,
 pl. xii., fig. 2, pl. xvi., fig. 4.
Collected by Mr. Theobald, 1876.

Bos platyrhinus, Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 119 (1878).

(The distinctness of this form is somewhat doubtful.)

- B. 236.** Lower part of the cranium; from near Umb. This specimen
Fig. is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. i.,
 pl. xiv. *Collected by Mr. Theobald, 1876.*

¹ A large series of limb-bones of various genera of this family and the *Cervidae* are contained in the Museum, but as even their generic determination is impossible, they have not been catalogued.

Genus **BISON**, H. Smith.

In Griffith's 'Animal Kingdom,' vol. v., p. 373 (1827).

Bison sivalensis, Falc.

Syn. *Bos sivalensis*, Falc.

'Pal. Memoirs,' vol. i., p. 555 (1868).

- B. 239.** Upper part of the cranium; from near Pinjor. Figured in the 'Pal. Ind.' ser. 10, vol. i., pls. xv. & xvii., fig. 1.

Collected by Mr. Theobald, 1876.

Genus **BUBALUS**, Hamilton Smith.

In Griffith's 'Animal Kingdom,' vol. v., p. 371 (1827).

Bubalus buffelus, Blumenbach.

'Handbuch der Naturgeschichte,' ed. 10, p. 121 (1821), *teste* Fischer.

var. *palæindicus*,¹ Falc.

Syn. *Bos palæindicus*, Falc.

'Catalogue of Fossil Vertebrata of Asiatic Society of Bengal,' p. 230 (1859).

- B. 238.** Two imperfect crania; from Bubhor.

Collected by Mr. Theobald.

- B. 421.** Cranium; from the Jamu district. Collected by Mr. Theobald.

Bubalus platyceros, Lyd.

'Rec. Geol. Surv. Ind.' vol. x., p. 31 (1877).

Syn. *Bubalus sivalensis*, Rüt.

- B. 237.** An imperfect cranium; from Sutor. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xviii., fig. 1.

Collected by Mr. Theobald, 1876.

From a study of the specimens in the British Museum, the writer has come to the conclusion that the two following species, forming the genera *Hemibos* and *Amphibos*, Falc. and Caut. (*Peribos*, Lyd.; *Probubalus*, Rüt.), may be included in the present genus.

¹ The writer has recently come to the conclusion that the Narbada form is only a variety of the living buffalo, and he has been unable to distinguish the form occurring in the topmost Siwaliks from the Narda barace.

Bubalus occipitalis (Falc.).

'Pal. Memoirs,' vol. i., p. 280 (1868).

Syn. *Bos occipitalis*, Falc.; *Hemibos triquetriceros*, Falc. and Caut.; *Peribos occipitalis*, Lyd.; *Probubalus triquetricornis*, Rüt.

- B. 241.** Cranium; from Ganawar Khal, Siwalik Hills. This specimen belongs to a male, and may be regarded as the type; it is figured in the 'Pal. Ind.' ser. 10, vol. i., pls. xx., xxi.

A. S. B. Collection (No. S. 562).

- B. 342.** Cranium of a male; from the Siwalik Hills. Figured in the 'Pal. Ind.' *op. cit.* pl. xxi. A.

By exchange with the Rürki Museum.

- B. 343.** Cranium of a male, with smaller horn-cores; from the Kangra district. Figured in the 'Pal. Ind.' *op. cit.* pl. xxiv.

Collected by Mr. Theobald, 1876.

- B. 344.** Cast of the cranium of a male. The original is from the Siwalik Hills, and is in the British Museum (No. 39565); it is figured by Rüttimeyer in the 'Rinder der Tertiär Epoche,' &c., pl. vii., figs. 1, 2, under the name of *Probubalus triquetricornis* (wrongly quoted as No. 39563).

A. S. B. Collection.

- B. 422.** An imperfect cranium; from the Kangra district.

Collected by Mr. Theobald.

- B. 423.** An imperfect cranium; from the Siwalik Hills.

A. S. B. Collection (No. S. 563).

Bubalus acuticornis (Falc. and Caut.).

Syn. *Amphibos acuticornis*, Falc. and Caut.

'Pal. Memoirs,' vol. i., p. 547 (1868).

- B. 240.** Imperfect cranium of an old male; from the Markanda valley, Siwalik Hills. Figured in the 'Pal. Ind.' ser. 10, vol. i., pls. xxii, xxiii.

Presented by Col. Godwin-Austen, 1866.

- B. 240a.** The upper portion of the cranium of a male; from the Kangra district. Figured in the 'Pal. Ind.' *op. cit.* pl. xxiii A.

Collected by Mr. Theobald, 1876.

- B. 242.** Cranium of a young female, provisionally referred to this species; from the Kangra district. Figured in the 'Pal. Ind.' *op. cit.* pl. xxi., fig. i., and pl. xxi. B.

Collected by Mr. Theobald, 1876.

- B. 242a.** Cranium of a young female; from the Kangra district.
Collected by Mr. Theobald, 1876.

- B. 345.** Upper part of a cranium; from the Kangra district.
Fig. Collected by Mr. Theobald, 1876.

The following specimens are not generically determined.

- B. 247-9.** Three upper and lower jaws; from the Hoshiarpur district.
Collected by Mr. Theobald.

- B. 250-2.** Nine specimens of imperfect upper and lower jaws; from the Kangra and Hoshiarpur districts.
Collected by Mr. Theobald.

- B. 387.** Right maxilla, with two molars; from the Hoshiarpur district.
(? Bos.) Collected by Mr. Theobald.

- B. 372.** Left maxilla; from the Hoshiarpur district. *(? Bos.)*
Collected by Mr. Theobald.

Genus **CAPRA**, Linn.

'Syst. Nat.,' ed. 12, vol. i., p. 94 (1766).

Capra sivalensis, Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 169 (1878).

- B. 243.** Cast of upper part of the cranium. The original, which is the type, is from the Siwalik Hills, and is in the British Museum (No. 39794); it is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xxviii., figs. 1, 2. *A. S. B. Collection.*
- B. 243a.** Cast of an imperfect cranium. The original is from the Siwalik Hills, and is in the British Museum (No. 36674).
A. S. B. Collection.

Capra perimensis, Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 170 (1878).

- B. 244.** The frontlet; from Perim Island. This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xxviii., figs. 4, 5. *A. S. B. Collection (No. P. 57).*

Capra, sp., Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 171 (1878).

- B. 246.** Three broken horn-cores; from the Potwar district, Punjab. *Fig.* One of these specimens is figured in the 'Pal. Ind.' ser. 10, vol. 1., pl. xxviii., fig. 3. *Collected by Mr. Theobald.*

- B. 245. The frontlet; from Niki, Punjab. *Collected by Mr. Theobald.*

Genus **OREAS**, Desmarest.

'Mammalogie,' p. 471 (1822).

Oreas (?) latidens, Lyd.

Syn. *Cervus latidens*, Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 65 (1876).

- B. 218. Two specimens of the left maxilla; from the Punjab. One is
Fig. figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. xiii., figs. 12,
 13. *Collected by Mr. Theobald.*

- B. 219-20. Six detached upper true molars; from the Punjab. One is
Figs. figured in the 'Pal. Ind.' ser. 10, vol. i., pl. viii., figs. 7, 10.
Collected by Mr. Theobald.

Genus **PALÆORYX**, Gaudry.

'Comptes Rendus,' vol. lii., p. 238 (1861).

Palæoryx (?) sp., Lyd.

'Pal. Ind.' ser. 10, vol. iii., p. 114 (1884).

- B. 353. Two upper true molars; from the Punjab. One is figured in
 the 'Pal. Ind.' ser. 10, vol. iii., pl. xiii., figs. 9, 10.
Collected by Mr. Theobald.

Genus **BOSELAPHUS**, Blainville.

'Bull. Soc. Philom. Paris,' 1816, p. 75.

Syn. *Portax*, H. Smith.

Boselaphus, sp., Lyd.

'Pal. Ind.' ser. 10, vol. iii., p. 114 (1884).

- B. 213. Part of the left maxilla of an immature individual; from the
Fig. Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. iii., pl.
 xiii., fig. 1. *Collected by Mr. Theobald.*
- B. 205. } Five detached upper molars; from the Punjab. Two are
 B. 206. } figured in the 'Pal. Ind.' *op. cit.* figs. 7, 8, 11.
Fig. *Collected by Mr. Theobald.*
- B. 336. Part of the right maxilla, with mm. 3, mm. 4, and m. 1; from
 the Punjab. *Collected by Mr. Theobald.*

- B. 385.** Part of the left maxilla of an immature individual; from the Punjab. Figured in the 'Pal. Ind.' *op. cit.* fig. 2.
Collected by Mr. Theobald.
- B. 386.** A left upper true molar; from the Punjab.
Collected by Mr. Theobald.
- B. 210.** Two portions of the mandible; from the Punjab. One Fig. figured in the 'Pal. Ind.' *op. cit.* fig. 5.
Collected by Mr. Theobald.
- B. 210a.** Fragment of the mandible; from the Siwalik Hills.
A. S. B. Collection.
- B. 211.** Three imperfect rami of the mandible with milk-dentition; from the Punjab. Two are figured in the 'Pal. Ind.' *op. cit.* figs. 3, 4.
Collected by Mr. Theobald.
- B. 212.** Part of the right ramus of the mandible of an immature individual; from the Siwalik Hills. (Described by Falconer as *Camelopardalis*.)
A. S. B. Collection (No. S. 560).
- B. 207.** }
B. 208. } Six detached lower molars; from the Punjab.
Collected by Mr. Theobald.
- B. 335.** Fragment of the right ramus of the mandible; from the Punjab.
Collected by Mr. Theobald.
- B. 262.** }
B. 268. } The associated right ramus of the mandible, axis vetrebra and forelimb; from Niki, Punjab.
Collected by Mr. Theobald.
- B. 355.** Part of the right ramus of the mandible, with $\overline{m. 2}$, and $\overline{m. 3}$; from the Punjab.
Collected by Mr. Theobald.
- B. 356.** Two lower true molars; from the Punjab.
Collected by Mr. Theobald.

Genus **HIPPOTRAGUS**, Sundevall.

'K. Svenska. Vet-Akad. Handl.' for 1844, p. 196.

Hippotragus sivalensis, Lyd.

Syn. *Antilope sivalensis*, Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 154 (1878).

- B. 232.** The imperfect cranium of a female, with the crowns of the teeth hammered off; from Sanjwan. This specimen is the

type, and is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xxv., figs. 1, 2 : it is referred to the present genus in the 'Geol. Mag.' dec. 3, vol. ii., p. 170.

Collected by Mr. Theobald.

Genus **GAZELLA**, Blainville.

'Bull. Soc. Philom. Paris,' 1816, p. 75.

Gazella porrecticornis, Lyd.

Syn. *Antilope porrecticornis*, Lyd.

'Pal. Ind.,' ser. 10, vol. i., p. 158 (1878).

- B. 229-230.** Several imperfect horn-cores; from the Potwâr district, Punjab. One, which is the type, is figured in the
Fig. 'Pal. Ind.' ser. 10, vol. i., pl. xxv., fig. 4.

Collected by Mr. Theobald.

- B. 228.** Three fragments of the cranium; from the Punjab (the one with complete horn-cores is from Niki).

Collected by Mr. Theobald.

- B. 415.** Various horn-cores; from the Punjab.

Collected by Mr. Theobald.

Genus **ALCELAPHUS**, Blainville.

'Bull. Soc. Philom. Paris,' 1816, p. 75.

Alcelaphus palæindicus (Falc.).

Syn. *Antilope palæindica*, Falc.

'Catalogue of Fossil Vertebrata of Asiatic Society of Bengal,
 p. 154 (1859).

- B. 231.** Cranium; from the Siwalik Hills.

A. S. B. Collection (No. S. 581).

- B. 231a.** Cranium; from the Siwalik Hills.

A. S. B. Collection (No. S. 582).

Genus **COBUS**, A. Smith.

'Illust. Zoology of S. Africa,' No. 12 (1840).

Cobus (?) patulicornis, Lyd.Syn. *Antilope patulicornis*, Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 157 (1878).

- B. 227.** Two frontlets; from the Hoshiarpur district. One specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xxv., fig. 3; it is suggested in the 'Geol. Mag.' dec. 13, vol. ii., p. 171, that the species is allied to *Cobus*.

Specifically undetermined.

- B. 232a.** An imperfect cranium; from the Siwalik Hills.

A. S. B. Collection (No. S. 569).

- B. 347.** Fragment of the right maxilla with m. 2 and m. 2; from the Punjab.

Collected by Mr. Theobald.

- B. 388.** Fragment of the right maxilla, with two molars; from the Punjab.

Collected by Mr. Theobald.

- B. 222-4.** Nine fragments of mandibles; from the Punjab.

Collected by Mr. Theobald.

- B. 225.** A nearly complete mandible; from Niki, Punjab.

Collected by Mr. Theobald.

- B. 226.** Three fragments of immature mandibles; from the Punjab.

Collected by Mr. Theobald.

- B. 233.** Part of a frontlet; from Niki.

Collected by Mr. Theobald.

Family GIRAFFIDÆ.

Syn. *Camelopardalidæ*.Genus **SIVATHERIUM**, Falc. and Caut.

'Asiatic Researches,' vol. xix., p. 1 (1836).

Sivatherium giganteum, Falc. and Caut.

'Asiatic Researches,' vol. xix., p. 1 (1836).

- B. 424.** Cast of the cranium. The original, which is the type, is from the Siwalik Hills, and is in the British Museum; it is figured in the 'F. A. S.' pls. xci., xcii. *No history.*

- B. 424a.** Portion of the antler; from Ganawar Khal, Siwalik Hills. This specimen is figured in the 'Journ. As. Soc. Beng.,' vol. iv, pl. xlv., fig. 3. *A. S. B. Collection (No. S. 32).*

- B. 361. Cast of the left maxilla, with $\overline{\text{pm. 3}}$, $\overline{\text{pm. 4}}$, and $\overline{\text{m. 1}}$. The original is from the Hoshiarpur district, and is in the Museum of the Royal College of Surgeons (No. 1430).
By exchange with the Museum of the Royal College of Surgeons.
- B. 162. Cast of the right maxilla of a young individual, showing the three milk-molars. The original is from the Siwalik Hills, and is in the British Museum (No. 48928).
Purchased.
- B. 163. A left upper true molar; from the Kangra district. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxi., fig. 1.
Collected by Mr. Theobald.
- B. 165. An upper premolar; from the Siwalik Hills.
A. S. B. Collection (No. S. 330).
- B. 340. The last upper premolar; from the Siwalik Hills.
By exchange with the Rürki Museum.
- B. 161. Fragment of right ramus of the mandible; with $\overline{\text{pm. 4}}$, and $\overline{\text{m. 1}}$, from Niki, Punjab. *Collected by Mr. Theobald.*
- B. 162a. Casts of two rami of the mandible. The originals are from the Siwalik Hills, and are in the British Museum. One (B. M. No. 40667) is figured in 'Pal. Mem.' vol. i., pl. xxi., fig. 1, the other (B. M. No. 28106) is unfigured.
No history.
- B. 164. Fragment of left ramus of the mandible, with $\overline{\text{pm. 4}}$ and $\overline{\text{m. 1}}$; from Khatpuráli. *Collected by Mr. Theobald.*
- B. 167. Fragment of left ramus of the mandible with $\overline{\text{m. 3}}$; from the Hoshiarpur district. *Collected by Mr. Theobald.*
- B. 166. Three associated lower premolars; from near Núrpur.
Collected by Mr. Theobald.
- B. 339. Fragment of right ramus of the mandible, with $\overline{\text{pm. 4}}$; from the Siwalik Hills. *By exchange with the Rürki Museum.*
- B. 341. Part of right ramus of the mandible of a young individual Fig. with $\overline{\text{mm. 3}}$, $\overline{\text{mm. 4}}$ and $\overline{\text{m. 1}}$; from the Siwalik Hills. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxi., fig. 3. There is a similar, but more perfect, specimen in the British Museum.
By exchange with the Rürki Museum.

- B. 281.** Two specimens of the distal extremity of the left humerus ; from the Siwalik Hills.
A. S. B. Collection (Nos. S. 335, 339).
- B. 279.** Two specimens of the distal extremity of the radius ; from the Siwalik Hills. *A. S. B. Collection (Nos. S. 340, 341).*
- B. 279a.** Distal extremity of the radius ; from the Kangra district.
Collected by Mr. Theobald.
- B. 364.** Cast of the right metacarpus. The original is from the Siwalik Hills, and is in the British Museum (No. 39533) ; it is figured in the 'F. A. S.' pl. C., fig. 15, and in the 'Pal. Ind.' ser. 10, vol. ii., pl. xvii., fig. 1. *A. S. B. Collection.*
- B. 384.** Cast of head of the left femur. The original is from the Siwalik Hills, and is in the British Museum (No. 39546) ; it is figured in the 'F. A. S.' pl. D., fig. 1.
A. S. B. Collection.
- B. 281a.** Distal extremity of the left femur ; from the Siwalik Hills.
A. S. B. Collection (No. S. 349).
- B. 282.** The tibia ; from Jabi, Punjab. *Collected by Mr. Theobald.*
- B. 282a.** The distal extremity of the tibia ; from the Siwalik Hills.
A. S. B. Collection (No. S. 354).
- B. 282b.** The distal extremity of the tibia ; from Pinjor.
Collected by Mr. Theobald.
- B. 277.** The imperfect calcaneum ; from the Kangra district.
Collected by Mr. Theobald.
- B. 277a.** The imperfect calcaneum ; from the Siwalik Hills.
A. S. B. Collection (No. S. 353).
- B. 385a.** Cast of the left calcaneum. The original is from the Siwalik Hills, and is in the British Museum (No. 39543). It is figured in the 'F. A. S.' pl. D., fig. 12.
A. S. B. Collection.
- B. 278.** The astragalus ; from the Punjab.
Collected by Mr. Theobald.
- B. 278a.** The astragalus ; from the Siwalik Hills.
A. S. B. Collection (No. S. 350).
- B. 366.** Cast of the left astragalus. The original is from the Siwalik Hills, and is in the British Museum (No. 16998) ; it is figured in the 'F. A. S.' pl. D., fig. 11.
A. S. B. Collection.

- B. 365.** Cast of the right naviculo-cuboid. The original is from the Siwalik Hills, and is in the British Museum (No. 39544); it is figured in the 'F. A. S.' pl. D., fig. 13.
A. S. B. Collection.
- B. 276a.** Two specimens of the proximal phalangeal; from the Siwalik Hills. *A. S. B. Collection (Nos. S. 355, 356).*
- B. 276.** The proximal phalangeal; from the Kangra district.
Fig. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xvii., fig. 9 (wrongly quoted as 270). *Collected by Mr. Theobald.*
- B. 280.** Two specimens of the second phalangeal; from Pinjor.
Collected by Mr. Theobald.
- B. 383.** Cast of part of the atlas vertebra. The original is from the Siwalik Hills, and is in the British Museum (No. 39526); it is figured in the 'F. A. S.' pl. B., fig. 1.
A. S. B. Collection.
- B. 375.** The axis vertebra; from the Siwalik Hills. Figured in the *Fig.* 'Journ. As. Soc. Beng.' vol. iv., pl. xlv., fig. 1.
A. S. B. Collection (No. S. 331).
- B. 375a.** Fourth (?) cervical vertebra; from the Siwalik Hills. Figured
Fig. in the 'Journ. As. Soc. Beng.' *op. cit.* fig. 2.
A. S. B. Collection (No. S. 332).
- B. 375b.** Sixth cervical vertebra; from the Siwalik Hills.
A. S. B. Collection (No. S. 333).
- B. 374.** Sixth cervical vertebra; from the Siwalik Hills. Figured
Fig. in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxii.
By exchange with the Rürki Museum.
- B. 375c.** First dorsal vertebra; from the Siwalik Hills.
A. S. B. Collection (No. S. 334).

Genus **BRAMATHERIUM**, Falconer.

'Quart. Journ. Geol. Soc.,' vol. i., p. 363 (1845).

Bramatherium perimense, Falconer.

'Quart. Journ. Geol. Soc.,' vol. i., p. 365 (1845).

- B. 425.** Cast of the cranium. The original is from Perim Island, and is in the Museum of the Royal College of Surgeons (No. 1436); it is described and figured in the 'Journ. Roy. As. Soc.,' vol. viii., p. 340 (1845).

By exchange with the Museum of the Royal College of Surgeons.

- B. 169.** Cast of the left maxilla. The original is from Perim Island, and is in the British Museum (No. 48933); it is figured in the 'Pal. Mem.' vol. i., pl. xxxiii., figs. 3, 4. *Purchased.*
- B. 170.** Fragment of the right ramus of the mandible, with $\overline{m.1}$ and *Fig.* $\overline{m.2}$; from Perim Island. Teeth figured in the 'Pal. Ind.' ser. 10, vol. i., pl. vii., fig. 13.
A. S. B. Collection (No. P. 38).
- B. 170a.** Fragment of the left ramus of the mandible, with four teeth (broken); from Perim Island.
A. S. B. Collection (No. P. 39).
- B. 171.** Two broken metacarpals; from Perim Island.
A. S. B. Collection.
- B. 172a.** The astragalus; from Perim Island. *A. S. B. Collection.*
- B. 172.** The first phalangeal; from Perim Island. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xvii., fig. 6 (wrongly quoted as 271).
A. S. B. Collection (No. P. 40).

Genus **HYDASPITHERIUM**, Lyd.

'Rec. Geol. Surv. Ind.,' vol. ix., p. 154 (1876).

Hydasphtherium megacephalum, Lyd.

'Rec. Geol. Surv. Ind.' vol. ix., p. 154 (1876).

- B. 150.** Cranium; from Asnot, Punjab. This specimen is the type, *Fig.* and is figured in the 'Pal. Ind.' ser. 10, vol. i., pls. xxvi., xxvii.
Collected by Mr. Theobald.
- B. 131.** A slightly-worn right upper true molar; from Rohtas, near Jhelam, Punjab.
Collected by Mr. Theobald.
- B. 132.** A left upper true molar; from Asnot.
Collected by Mr. Theobald.
- B. 133.** A right upper true molar; from the Punjab.
Collected by Mr. Theobald.
- B. 134.** A right upper true molar; from the Punjab.
Collected by Mr. Theobald.
- B. 135.** Two fragments of the maxilla of opposite sides belonging to the same individual; from Niki, Punjab. The teeth of the left side are figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xviii., fig. 3.
Collected by Mr. Theobald.

- B. 136. A right upper true molar ; from the Punjab.
Collected by Mr. Theobald.
- B. 137. A right upper true molar ; from the Punjab.
Collected by Mr. Theobald.
- B. 138. A left upper true molar ; from the Punjab.
Collected by Mr. Theobald.
- B. 140. Fragment of the right maxilla, containing the last three premolars ; from Jabi, Punjab.
Collected by Mr. Theobald.
- B. 141. Three upper premolars ; from the Punjab.
Collected by Mr. Theobald.
- B. 147. The associated third and fourth right upper milk-molars ; from the Punjab.
Collected by Mr. Theobald.
- B. 148. Two specimens of the third right upper milk-molar ; from the Punjab.
Collected by Mr. Theobald.
- B. 142. The complete ramus of the mandible ; from near Jabi, Punjab.
Fig. ab. This specimen is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xix., the ascending ramus being omitted.
Collected by Mr. Theobald.
- B. 143. The worn third left lower true molar ; from the Punjab.
Collected by Mr. Theobald, 1877.
- B. 144. The second left lower true molar ; from Jabi.
Collected by Mr. Theobald.
- B. 145. Fragment of the left ramus of the mandible, containing $\overline{\text{m. 2}}$ $\overline{\text{m. 3}}$; from Chakráta, Punjab. *Collected by Mr. Theobald.*
- B. 146. The fourth lower premolar. *Collected by Mr. Theobald.*
- B. 149. Fragment of the right ramus of the mandible, containing *Fig.* $\overline{\text{mm. 4}}$, and a part of $\overline{\text{mm. 3}}$; from Niki, Punjab. This specimen is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxi., fig. 4.
Collected by Mr. Theobald.
- B. 149a. The last left lower milk-molar ; from Patala, Punjab.
Collected by Mr. Theobald.
- B. 176. Two specimens of the second right lower milk-molar ; from *Fig.* the Potwár district, Punjab. One figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xvi., fig. 3. *Collected by Mr. Theobald.*

B. 284. The left calcaneum; from Jabi. Figured in the 'Pal. Ind.'
Fig. ser. 10, vol. ii., pl. xvii., fig. 7. *Collected by Mr. Theobald.*

B. 270. The left carpus and metacarpus (wanting a portion in the
Fig. middle) and an associated proximal phalangeal; from
 Niki, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. ii.,
 pl. xvii., figs. 10, 11 (wrongly quoted as 276).
Collected by Mr. Theobald.

B. 369. Distal extremity of the metatarsus, associated with the last
 specimen. *Collected by Mr. Theobald.*

Specimens belonging either to this or the next species.

B. 371. An incisor; from the Punjab. *Collected by Mr. Theobald.*

B. 412. Various molars; from the Punjab.
Collected by Mr. Theobald.

B. 274. The associated distal extremity of the humerus, proximal
 extremity of the radius, and a second phalangeal; from
 Jabi, Punjab. *Collected by Mr. Theobald.*

B. 320. The left scaphoid; from Jabi. *Collected by Mr. Theobald.*

B. 157. The right scaphoid; from the Punjab.
Collected by Mr. Theobald.

B. 159. The left lunar; from the Punjab.
Collected by Mr. Theobald.

B. 158. The left cuneiform; from the Punjab.
Collected by Mr. Theobald.

B. 321. The right cuneiform; from Jabi.
Collected by Mr. Theobald.

B. 160. The left magnum; from the Punjab.
Collected by Mr. Theobald.

B. 309. The left magnum; from the Punjab.
Collected by Mr. Theobald.

B. 272. The nearly complete tibia; from Niki.
Collected by Mr. Theobald.

B. 283. Three specimens of the left naviculo-cuboid; from the
 Punjab. *Collected by Mr. Theobald.*

B. 273. Three specimens of the distal extremity of the metatarsus;
 from the Punjab. *Collected by Mr. Theobald.*

- B. 269. Three specimens of the proximal phalangeal; from the Punjab.
Collected by Mr. Theobald.
- B. 367. A proximal phalangeal; from the Punjab.
Collected by Mr. Theobald.
- B. 380. The atlas vertebra; from the Punjab.
Collected by Mr. Wynne.
- B. 381. The axis vertebra; from the Punjab.
Collected by Mr. Theobald.
- B. 376. The fourth cervical vertebra; from the Punjab.
Collected by Mr. Theobald.
- B. 285. The fifth cervical vertebra; from the Punjab.
Collected by Mr. Theobald.
- The generic reference of the following is uncertain; all are from the Punjab, and were collected by Mr. Theobald.*
- B. 382. A sixth cervical vertebra; from the Siwalik Hills, distinguished from that of *Sivatherium* by its smaller size, longer and narrower centrum, and by the strong keel on the inferior surface. (?) *Helladotherium*.
A. S. B. Collection (No. S. 603).
- B. 407, 410. Various metapodials.
- B. 408. Various carpals and tarsals.
- B. 409. Various phalangeals.
- B. 411. An astragalus.

Hydaspitherium grande, Lyd.

'Rec. Geol. Surv. Ind.,' vol. xi., p. 91 (1878).

- B. 155. Two associated left upper true molars; from the Punjab.
Fig. One is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxi., fig. 2.
Collected by Mr. Theobald.
- B. 156. The associated first and second left upper molars; from the Punjab.
Collected by Mr. Theobald.
- B. 151. Greater portion of left ramus of the mandible; from the Punjab. This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xx.
Collected by Mr. Theobald.
- B. 152. Part of the right ramus of the mandible with three true molars; from the Punjab.
Collected by Mr. Theobald.

- B. 153. Part of the right ramus of the mandible, with $\overline{m. 3.}$; from the Punjab. *Collected by Mr. Theobald.*
- B. 154. Two specimen of the third left lower true molar; from the Punjab. *Collected by Mr. Theobald.*
- B. 275. Part of the right ramus of the mandible, with the teeth much worn; from Jabi. *Collected by Mr. Theobald.*
- B. 370. The right calcaneum; from the Punjab. Figured in the *Fig. 'Pal. Ind.' ser. 10, vol. ii., pl. xviii., fig. 1.*
Collected by Mr. Theobald.
- B. 271. A proximal phalangeal; from Niki. Figured in the *Fig. 'Pal. Ind.' ser. 10, vol. ii., pl. xvii., fig. 8* (wrongly quoted as 172).

Genus **VISHNUTHERIUM**, Lyd.

'Rec. Geol. Surv. Ind.,' vol. ix., p. 103 (1876).

Vishnutherium iravadicum, Lyd.

'Rec. Geol. Surv. Ind.,' vol. ix., p. 103 (1876).

- B. 139. The associated second and third right upper true molars; *Fig.* from Asnot, Punjab. Figured in the *'Pal. Ind.' ser. 10, vol. ii., pl. xvi., fig. 7.* *Collected by Mr. Theobald.*
- B. 168. A fragment of the left ramus of the mandible; from Burma. *Fig.* Figured in the *'Pal. Ind.' ser. 10, vol. i., pl. vii., figs. 1, 2.* This specimen is the type.
Collected by Mr. Blanford.
- B. 286. The left metatarsal, imperfect inferiorly; from Jabi, Punjab. *Fig.* Figured in the *'Pal. Ind.' ser. 10, vol. ii., pl. xvii., fig. 3.* (The reference of this and the next specimen is provisional.)
Collected by Mr. Theobald.
- B. 373. The centrum of the 6th cervical vertebra; from Asnot, Punjab. *Fig.* Figured in the *'Pal. Ind.' ser. 10, vol. ii., pl. xviii., fig. 2.* *Collected by Mr. Theobald.*

Genus **GIRAFFA**, Zimmermann.

"Geograph. Geschichte," vol. ii., p. 125 (1780).

Syn. *Camelopardalis*, Gmelin (1788).

Giraffa sivalensis, Falc. and Caut.Syn. *Camelopardalis sivalensis*, Falc. and Caut.

'Proc. Geol. Soc.,' vol. iv., p. 244 (1843).

Camelopardalis affinis, Falc. and Caut.

- B. 184.** Portions of the associated right and left maxillæ, showing the last four teeth; from Asnot, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xvi., figs. 1, 2.

Collected by Mr. Theobald.

- B. 177.** Part of the maxilla with mm. 3, mm. 4, and m. 1; from the Potwár district, Punjab.

Collected by Mr. Theobald.

- B. 180.** Part of the right maxilla with m. 2 and m. 3; from the Potwár district.

Collected by Mr. Theobald.

- B. 181.** Three detached upper true molars; from the Punjab.

Collected by Mr. Theobald.

- B. 182.** Two detached upper premolars; from the Punjab.

Collected by Mr. Theobald.

- B. 183.** Casts of the last upper and lower true molars. The originals are figured in the 'Proc. Geol. Soc.' vol. iv., pl. ii., figs. 4, 5, and the 'Pal. Mem.' vol. i., pl. xvi., figs. 6, 7, and are in the British Museum (Nos. 39756 and 39755); they were obtained from the Siwalik Hills.

Purchased.

- B. 346.** The third left lower molar (?); from the Punjab.

Collected by Mr. Theobald.

- B. 406.** Upper molar; from the Punjab.

Collected by Mr. Theobald.

- B. 173.** Part of the right ramus of the mandible; from Niki, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xvi., fig. 5.

Collected by Mr. Theobald.

- B. 174.** Part of the right ramus of the mandible; from Padri. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. vii., figs. 14, 15.

Collected by Mr. Theobald.

- B. 178.** Part of the left ramus of the mandible; with m. 2 and m. 3; from the Potwár district.

Collected by Mr. Theobald.

- B. 179.** Three specimens of the last lower true molars; from the
Fig. Potwār district. One of these is of very small size, and is
 figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xvi., fig. 6. It
 is not improbable that this specimen may really belong to
Palæomeryx. *Collected by Mr. Theobald.*
- B. 185.** The last left lower premolar; from Asnot.
Collected by Mr. Theobald.
- B. 185a.** Cast of the last left lower premolar. The original is from
 the Siwalik Hills, and is figured in the 'Proc. Geol. Soc.,'
 vol. iv., pl. ii., fig. 6, and in the 'Pal. Mem.' vol. i., pl. xvi.,
 figs. 8, 9; it is in the British Museum. *Purchased*
- B. 175.** The last right lower milk-molar; from Asnot. Figured in
Fig. the 'Pal. Ind.' ser. 10, vol. ii., pl. xvi., fig. 8.
Collected by Mr. Theobald.
- B. 363.** Cast of the greater portion of the right humerus. The
 original is from the Siwalik Hills, and is figured in the
 'F. A. S.' pl. E., fig. 3; it is in the British Museum (No.
 39749). *A. S. B. Collection.*
- B. 186.** The associated distal portion of the tarsus metatarsus (im-
 perfect inferiorly), and the first phalangeal; from the
 Punjab. *Collected by Mr. Theobald.*
- B. 362.** Proximal anterior phalangeal; from the Punjab.
Collected by Mr. Theobald.
- B. 368.** Proximal posterior phalangeal; from the Punjab.
Same history.
- B. 187.** Cast of the fifth (?) cervical vertebra. The original is from
 the Siwalik Hills, and is figured in the 'Proc. Geol. Soc.'
 vol. iv., pl. iii., in the 'Pal. Mem.' vol. i., pl. xvi., figs. 1 to
 4, and in the 'F. A. S.' pl. E., fig. 1 (as 3rd cervical); it
 is in the British Museum (No. 39747). *A. S. B. Collection.*
- Genus *non det.*
- B. 189.** Second lower milk, or premolar; from Asnot, Punjab.
Fig. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xvi., fig. 4.
Collected by Mr. Theobald.
- B. 188.** Part of the right ramus of a mandible with $\overline{\text{mm. 2}}$ and
 $\overline{\text{mm. 3}}$; from the Punjab. This specimen probably
 belongs to *Hydaspitherium.* *Collected by Mr. Theobald.*

Family CERVIDÆ.

Genus MOSCHUS, Linn.

'Syst. Nat.,' ed. 12, vol. i., p. 91 (1766).

Moschus (?) sp., Lyd.

'Pal. Ind.' ser. 10, vol. iii., p. 118 (1884).

- B. 437.** The fourth right upper premolar; from the Punjab. This specimen is the type, and is figured on the page cited above.
Fig. *Collected by Mr. Theobald.*

Genus CERVUS, Linn.

'Syst. Nat.,' ed. 12, vol. i., p. 92 (1766).

Cervus triplidens, Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 67 (1876).

- B. 204.** Fragment of the right maxilla containing m. 2 and m. 3; from the Punjab. This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. viii., figs. 1, 2.
Fig. *Collected by Mr. Theobald.*

Cervus simplicidens, Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 69 (1876).

- B. 204.** Two fragments of the maxilla; from the Punjab. One of these is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. viii., fig. 3.
Fig. *Collected by Mr. Theobald.*
- B. 349.** The anterior portion of the cranium; from the Punjab. The dentition is figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. xiii., fig. 6, and woodcut, p. 119.
Fig. *Collected by Mr. Theobald.*
- B. 209.** Part of the left maxilla, with pm. 4 and the three molars; from the Punjab.
Collected by Mr. Theobald.
- B. 216.** A broken upper true molar; from Sylhet. *No history.*
- B. 350-51.** Detached upper true molars; from the Punjab.
Collected by Mr. Theobald.
- B. 221.** Three fragments of the maxilla; from the Punjab.
Collected by Mr. Theobald.

Cervus sivalensis, *Lyd.*

'Pal. Ind.' ser. 10, vol. i., p. xvii. (1880).

- B. 215.** Fragment of the right ramus of the mandible with m. 2 and m. 3; from Maili, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. viii., fig. 5. *Collected by Mr. Theobald*
- B. 338.** Part of the left maxilla with m. 1 and m. 2, perhaps belonging to a small form of this species; from the Punjab. *Collected by Mr. Theobald.*
- B. 352.** Fragment of a right maxilla, belonging to the same species as the last specimen; from the Punjab. *Collected by Mr. Theobald.*

Cervus, *sp.*

- B. 389.** Part of the right maxilla, with the three molars; from the Punjab. This specimen agrees in size with *C. porcinus*. *Collected by Mr. Theobald.*
- B. 348.** Fragment of the right maxilla, with the three molars; from the Punjab. This specimen agrees with the last. *Collected by Mr. Theobald.*

Genus PALÆOMERYX, *H. v. Meyer.*

'Die Zähne und Knochen von Georgensgemünd,' p. 92 (1834).

Syn Propalæomeryx, *Lyd.*

Palæomeryx sivalensis, *Lyd.*¹

'Pal. Ind.' ser. 10, vol. ii., p. 173 (1883), (*Propalæomeryx*).

- B. 337.** The third left upper molar; from the Siwalik Hills. This specimen is the type, and is figured in the passage cited above. *By exchange with the Rürki Museum.*

Specimens probably belonging to some of the foregoing species.

- B. 201.** Three fragments of antlers; from the Punjab. *Collected by Mr. Theobald.*
- B. 202.** Two fragments of antlers; from the Punjab. *Collected by Mr. Theobald.*

¹ A recent comparison of the cast of the tooth noticed below with specimens in the British Museum induces the writer to place the species in *Palæomeryx*.

- B. 203. Two fragments of antlers ; from Lehri, Punjab.
Collected by Mr. Wynne.
- B. 217. Fragment of a maxilla ; from the Punjab.
Collected by Mr. Theobald.
- B. 310. Occipital portion of cranium ; from Asnot, Punjab.
Collected by Mr. Theobald.
- B. 95. A lower molar ; from Sind. *Collected by Mr. Fedden.*

Family TRAGULIDÆ.

Genus **DORCATHERIUM**, Kaup.

'Oss. Foss. de Darmstadt,' pt. 5, p. 92 (1836).

Dorcatherium majus, Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 62 (1876).

- B. 197. Two detached upper true molars ; from Khushálgarh, Punjab.
Fig. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. vii., figs. 9, 10, 11.
Presented by Lieuts. Garnett and Trotter.
- B. 198. Two fragments of the left maxilla ; from Asnot, Punjab.
Fig. One is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. vii., figs. 4, 6.
Collected by Mr. Theobald.
- B. 199. Three fragments of the maxilla, showing milk and permanent molars ; from the Punjab. *Collected by Mr. Theobald.*
- B. 200. The greater portion of the mandible ; from the Punjab.
Collected by Mr. Theobald.

Dorcatherium minus, Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 64 (1876).

- B. 195. Fragment of the right maxilla ; from Asnot, Punjab. This
Fig. specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. vii., figs. 3, 7. *Collected by Mr. Theobald.*
- B. 196. Detached lower true molars ; from the Punjab.
Collected by Mr. Theobald.

Genus **TRAGULUS**, Pallas (*ex* Brisson).

'Spicilegia Zoologica,' vol. xiii., p. 27 (1779).

Tragulus sivalensis, Lyd.

'Rec. Geol. Surv. Ind.,' vol. xv., p. 30 (1882).

- B. 360.** Third left upper true molar; from Asnot, Punjab. This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. iii., p. 118. *Collected by Mr. Theobald.*

Family CAMELIDÆ.

Genus **CAMELUS**, Linn.

"Syst. Nat." ed. 12, vol. i., p. 90 (1766).

Camelus sivalensis, Falc. and Caut.

'Asiatic Researches,' vol. xix., p. 120 (1836).

At least one of the specimens of the mandible noticed below belongs to *C. antiquus* ('Rec. Geol. Surv. Ind.' vol. xviii., p. 78), but the writer has not had an opportunity of examining the specimens since that species was founded.

- B. 190.** The imperfect cranium; from Rupar.
Collected by Mr. Theobald.
- B. 190a.** Cast of the imperfect cranium. The original is from the Siwalik Hills, and is figured in the 'F. A. S.' pl. lxxxvii., fig. 1, it is in the British Museum (No. 39597).
A. S. B. Collection.
- B. 194.** Two associated fragments of the maxilla; from Madanpūr.
Collected by Mr. Theobald.
- B. 191.** Two fragments of the mandible; from near Hoshiarpūr.
Collected by Mr. Theobald.
- B. 192.** Two fragments of the mandible; from near Madanpūr.
Collected by Mr. Theobald.
- B. 193.** Fragment of the right ramus of the mandible, with the three true molars; from the Siwalik Hills.
A. S. B. Collection (No. S. 596).
- B. 193a.** Fragment of the right ramus of the mandible with one true molar; from the Siwalik Hills.
A. S. B. Collection (No. S. 775).

Bones of Ruminants not generically determined. All the specimens, unless it is otherwise stated, were collected by Mr. Theobald from the Punjab and neighbouring districts.

- B. 261. Part of scapula.
- B. 263. Radius.
- B. 318. Part of radius.
- B. 319. Two specimens of distal extremity of radius.
- B. 326. Three specimens of left scaphoid.
- B. 327. Three specimens of lunar.
- B. 328. Three specimens of magnum.
- B. 264. Metacarpus.
- B. 253. Proximal end of femur.
- B. 254. Distal end of femur.
- B. 256. Patella.
- B. 257. Calcaneum.
- B. 258. Astragalus.
- B. 259. Naviculo-cuboid.
- B. 260. Metatarsus.
- B. 265. 1st Phalangeal.
- B. 266. 2nd Phalangeal.
- B. 267. 3rd Phalangeal.
- B. 334. Two specimens of petrosal.
- B. 329. Three specimens of atlas.
- B. 393. Atlas (? *Cervus* or *Antelope*).
- B. 323. Atlas (? *Bos*).
- B. 322. Axis (? *Bos*).
- B. 330. Three specimens of axis.
- B. 392. Axis (? *Cervus* or *Antelope*).
- B. 331. Cervical vertebra.
- B. 391. Third cervical vertebra (? *Bos*).
- B. 390. Fourth cervical vertebra (? *Bos*).
- B. 394. Fourth cervical vertebra.
- B. 377. Fifth cervical vertebra (? *Bos*).
- B. 413. Cervical vertebra.
- B. 325. Dorsal vertebra.
- B. 332. Three dorsal vertebræ.
- B. 334a. Dorsal vertebra; from Sind. *Collected by Mr. Fedden.*
- B. 414. Dorsal vertebra.
- B. 333. Lumbar vertebra.
- B. 419. Upper molars.
- B. 416. Lower molars.
- B. 417. Fragments of mandibles.
- B. 418. Ditto.
- B. 420. Various bones; from Sind. *Collected by Messrs. Blanford and Fedden.*

Family DICHODONTIDÆ.

Genus **CHÆROMERYX**, Pomel.

'Comptes Rendus,' vol. xxvi., p. 687 (1848).

Syn. *Sivameryx*, Lyd.

The generic identity of *Sivameryx* with *Chæromeryx* has been indicated by the writer in the Geol. Mag., dec. 3, vol. ii, pp. 72-3 (1885), where the latter genus is referred to the present family.

Chæromeryx silistrensis (Pentland).

Syn. *Anthracotherium silistrense*, Pent. (*in parte*).

Sivameryx sindiensis, Lyd.¹

'Trans. Geol. Soc.' ser. 2, vol. ii., p. 394 (1828).

- B. 88. Cast of fragment of the right maxilla, containing mm. 3 and mm. 4. The original, which is the type, is from Káribári, Gáro Hills, and is figured in the 'F. A. S.' pl. lxviii., figs. 22, 22a. *A. S. B. Collection.*

- B. 91. Right upper true molar; from Sind. This specimen is figured *Fig.* in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxiii., fig. 11, under the name of *Sivameryx*. *Collected by Mr. Blanford.*

- B. 92. Lower molar perhaps belonging to the present species; from Sind. *Collected by Mr. Blanford.*

Family MERYCOPOTAMIDÆ.

Genus **MERYCOPOTAMUS**, Falc. & Caut.

In Owen's 'Odontography,' p. 566 (1840-45).

Meycopotamus pusillus, Lyd.

'Rec. Geol. Surv. Ind.,' vol. xviii., p. 145 (1885).

- B. 324. Fragment of the right maxilla with the third true molar; from Khushálgarh, Punjab. This specimen is the type, and is noticed in the 'Pal. Mem.,' vol. i., p. 416, under the name of *M. nanus*; it will be figured in the Introduction to vol. iii. of ser. 10 of the 'Pal. Ind.'

Presented by Lieuts. Garnett and Trotter.²

¹ Rec. Geol. Surv. Ind., vol. xi., p. 80 (1878).

² This specimen had been sent to the British Museum among Dr. Falconer's collection in 1867, and was transferred to the Indian Museum in 1885.

Merycopotamus dissimilis, Falc. & Caut.Syn. *Hippopotamus dissimilis*, Falc. and Caut.

'Asiatic Researches,' vol. xix., p. 51 (1836).

- B. 314. Cast of the type cranium. The original is from the Siwalik Hills, and is figured in the 'F. A. S.' pl. lxvii., fig. 1; it is in the British Museum (No. 18441). *A. S. B. Collection.*

- B. 110. The facial and palatal portion of the cranium of a small male, in a damaged condition; from near Bhimber. Nearly all the dentition is shown, but the crowns of the anterior teeth are broken off; the interval between the canine and the hinder border of m. 3 measures 6·2 inches ($\approx 0\cdot158$ mm.), and the length of the space occupied by the three true molars 2·8 inches ($\approx 0\cdot071$ mm.).

Collected by Mr. Theobald.

- B. 112. The anterior portion of the cranium of a young individual, *Fig.* showing m. 1 and m. 2, with pm. 3 and pm. 4 partially protruded. This specimen is figured in the 'Pal. Mem.' vol. i., pl. xv., figs. 1, 2. *No history.*

- B. 315. Cast of the right ramus of the mandible of a male. The original is from the Siwalik Hills, and is in the British Museum; it is figured in the 'F. A. S. pl. lxvii., fig. 4. *A. S. B. Collection.*

Merycopotamus nanus, Lyd. (*ex*. Falc. and Caut. MS.).

'Geol. Mag.' dec. 3, vol. i., p. 545 (1884).

- B. 111. Middle portion of a cranium probably belonging to this species, showing the hinder cheek-teeth in a very much worn condition; from the Potwar district, Punjab. The length of the space occupied by the three true molars is 2·4 inches ($\approx 0\cdot061$). *Collected by Mr. Theobald.*

The following specimens belong to one or other of the two preceding species.

- B. 113. Part of the right maxilla with the three true molars, the first being well worn; from Asnot, Punjab.

Collected by Mr. Theobald.

- B. 113a. Part of the right maxilla with the three true molars, the first slightly worn; from Asnot. *Collected by Mr. Theobald.*

- B. 114. Part of the right maxilla with m. 2 and m. 3; from Niki, Punjab. The teeth are much worn, and of large size. (? *M. dissimilis*.) *Collected by Mr. Theobald.*

- B. 114a. Part of the right maxilla with $\overline{m. 2}$ and $\overline{m. 3}$; from Asnot.
The teeth are similar to those of the last specimen.
Collected by Mr. Theobald.
- B. 115. Fragment of the right maxilla with $\overline{pm. 4}$ (broken), $\overline{m. 1}$, and $\overline{m. 2}$; from the Punjab.
Collected by Mr. Theobald.
- B. 116. Two detached upper true molars; from the Punjab.
Collected by Mr. Theobald.
- B. 117. Part of the right ramus of the mandible, containing the last four cheek-teeth; from Pegu. (? *M. dissimilis*).
Collected by Mr. Blanford.
- B. 118. Part of the right ramus of the mandible, with the last five cheek-teeth; from Asnot. (? *M. nanus*).
Collected by Mr. Theobald.
- B. 120. Part of the right ramus of the mandible, with the three true molars ($\overline{m. 1}$ imperfect); from the Punjab.
Collected by Mr. Theobald.
- B. 120a. Fragment of the right ramus of the mandible with $\overline{m. 2}$ and $\overline{m. 3}$; from Asnot.
Collected by Mr. Theobald.
- B. 121. Fragment of the right ramus of the mandible with $\overline{m. 2}$ and $\overline{m. 3}$, the former much worn; from Asnot. (? *M. nanus*).
Collected by Mr. Theobald.
- B. 119. Part of the right ramus of the mandible of a young individual, showing $\overline{mm. 4}$ (wanting the 1st lobe), $\overline{m. 1}$, and $\overline{m. 2}$ half protruded; from Jabi, Punjab. (? *M. nanus*).
Collected by Mr. Theobald.
- B. 316. Cast of distal end of humerus. *A. S. B. Collection.*

Genus **HEMIMERYX**, *Lyd.*‘*Rec. Geol. Surv. Ind.*,’ vol. xi., p. 80 (1878).**Hemimeryx blanfordi**, *Lyd.*‘*Pal. Ind.*’ ser. 10, vol. ii., p. 167 (1883).

- B. 89. Left upper molar; from Sind. This specimen is the type
Fig. and is figured in the ‘*Pal. Ind.*’ ser. 10, vol. ii., pl. xxiii,
figs 5, 8. *Collected by Mr. Blanford.*
- B. 90. Two lower molars; from Sind. One figured in the ‘*Pal.*
Fig. Ind.’ *op. cit.* fig. 1. *Collected by Mr. Blanford.*

Family OREODONTIDÆ.

Genus **AGRIOCHÆRUS**, Leidy.

'Proc. Ac. Nat. Sci. Philad.,' vol. v., p. 121 (1851¹).

Agriochærus (?) sp., Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 171 (1883).

- B. 94.** Left upper true molar; from Sind. This specimen is figured
Fig. in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxiii., fig. 2.
Collected by Mr. Fedden.

Family ANTHRACOTHERIIDÆ.

Genus **HYOPOTAMUS**, Owen.

'Quart. Journ. Geol. Soc.,' vol. iv., p. 103 (1848).

Hypotamus palæindicus, Lyd.

'Rec. Geol. Surv. Ind.,' vol. x., p. 77 (1877).

- B. 82.** Three right upper molars; from the Laki Hills, Sind. One
Fig. specimen, which is the type, is figured in the 'Pal. Ind.'
 ser. 10, vol. ii., pl. xxiii., figs. 6, 9.
Collected by Messrs. Blanford and Fedden.
- B. 83.** Three left upper molars; from the Laki Hills. One is figured
Fig. in the 'Pal. Ind.' *op. cit.* figs. 4, 7.
Collected by Messrs. Blanford and Fedden.
- B. 84.** Three lower molars; from the Laki Hills. One is figured in
Fig. the 'Pal. Ind.' *op. cit.* fig. 3.
Collected by Messrs. Blanford and Fedden.
- B. 85.** Two portions of the mandible, with the crowns of the teeth
Fig. hammered off; from the Laki Hills. One is figured in
 the 'Pal. Ind.' *op. cit.* pl. xxiv., fig. 4.
Collected by Messrs. Blanford and Fedden.
- B. 86.** Part of the left ramus of the mandible with $\overline{m. 1}$ and $\overline{m. 2}$ of
 a small form allied to the present species; from the Laki
 Hills.
Collected by Messrs. Blanford and Fedden.
- B. 359.** Three upper molars; from the Laki Hills.
Collected by Mr. Blanford, 1879.
- B. 93.** Part of cranium; from Sind. *Collected by Mr. Fedden.*

¹ This volume is dated 1852.

Hyopotamus giganteus, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 160 (1883).

- B. 427.** Third left upper true molar; from Gandoi, Búgti Hills.
Fig. This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxiv., fig. 3.

Collected by Mr. Blanford, 1882.

- B. 433.** Third left upper true molar; from Gandoi. Figured in the
Fig. 'Pal. Ind.' *op. cit.* p. 161 (woodcut).

Collected by Mr. Blanford, 1882.

- B. 428.** Part of the right ramus of the mandible; from Gandoi.
Fig. Figured in the 'Pal. Ind.' *op. cit.* pl. xxv., fig. 2. The reference of this and the next specimen is provisional.

Collected by Mr. Blanford, 1882.

- B. 431.** Part of the right ramus of the mandible, with $\overline{m. 3}$ (broken); from Dera Búgti.

Collected by Mr. Blanford, 1882.

Genus **ANTHRACOTHERIUM, Cuv.**

'Ossemens Fossiles,' 2nd ed., vol. iii., p. 396 (1822).

Anthracotherium hyopotamoides, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 152 (1883).

- B. 426.** Part of the right maxilla, with $\overline{m. 2}$ (broken) and $\overline{m. 3}$; from
Fig. Gandoi, Búgti Hills. This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxiv., fig. 2.

Collected by Mr. Blanford, 1882.

- B. 430.** Part of the right ramus of the mandible; from Gandoi. Figured in the 'Pal. Ind.' *op. cit.* pl. xxv., fig. 1. The reference of this and the next specimen is provisional.

Collected by Mr. Blanford, 1882.

- B. 429.** Part of the right ramus of the mandible, with $\overline{m. 2}$; from
Fig. Gandoi. Figured in the 'Pal. Ind.' *op. cit.* fig. 3.

Collected by Mr. Blanford, 1882.

Anthracotherium, sp.

(Cf. *A. magnum*, Cuv.)

- B. 432.** Part of the left ramus of the mandible, with $\overline{m. 3}$ in a worn
Fig. and broken condition; from Dera Búgti. Figured in the 'Pal. Ind.' ser. 10, vol. ii., p. 176 (woodcut).

Collected by Mr. Blanford, 1882.

- B. 434.** Lower premolar of a large anthracotheroid; from Dera Búgti.

Collected by Mr. Blanford, 1882.

Anthracotherium silistrense, Pentland.Syn. *A. punjabiense*, Lyd.

'Trans. Geol. Soc.' ser. 2, vol. ii., p. 394 (1828).

- B. 103.** Three specimens of right upper true molars; from the Laki Hills, Sind. Two of these specimens are figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xxiii., figs. 10, 12.

Collected by Messrs. Blanford and Fedden.

- B. 106.** Two portions of the rami of the mandible of the same individual; from Niki, Punjab. The right ramus is figured in the 'Pal. Ind.' *op. cit.* pl. xxiv., figs. 1, 1a.

Collected by Mr. Theobald.

- B. 104.** Fragment of the right ramus of the mandible, with $\overline{m. 2}$ and $\overline{m. 3}$; from Asnot, Punjab.

Collected by Mr. Theobald.

- B. 105.** The second right lower true molar; from Sind.

*Collected by Mr. Blanford.**Generically undetermined specimens allied to the foregoing genera.*

- B. 122.** The distal extremity of the ulna; from Sind.

Collected by Mr. Fedden.

- B. 123.** A median metapodial bone; from Sind.

Collected by Mr. Fedden.

- B. 123a.** Two median metapodials; from the Punjab.

Collected by Mr. Theobald.

- B. 124.** Two outer metapodials; from the Punjab.

Collected by Mr. Theobald.

- B. 125.** Two first phalangeals; the larger from the Punjab, the smaller from Sind.

Collected by Messrs. Theobald and Fedden.

- B. 126.** Six second phalangeals; from the Punjab and Sind.

Collected by Messrs. Theobald and Fedden.

- B. 127.** Several astragali; from the Punjab and Sind.

Collected by Messrs. Theobald and Fedden.

- B. 128.** Two specimens of the centrum of the axis vertebra; from the Potwár, Punjab.

Collected by Mr. Theobald.

- B. 379.** An inner metacarpal of a large species; from Sind.

Collected by Mr. Fedden.

- B. 404.** Various specimens; from the Punjab.

Collected by Mr. Theobald.

- B. 405. Various specimens ; from Sind.

Collected by Messrs. Blanford and Fedden.

Family CHÆROPOTAMIDÆ.

Genus **TETRAÇONODON**, Falc.

'Palæontological Memoirs,' vol. i., p. 149 (1868).

Tetraconodon magnus, Falc.

'Palæontological Memoirs,' vol. i., p. 149 (1868).

- B. 71. The greater portion of the lower dentition of either side ;

Fig. from Asnot, Punjab. The dentition of the right side is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. x.

Collected by Mr. Theobald.

Family SUIDÆ.

Genus **HYOTHERIUM**, H. von Meyer.

'Die Zahne und Knochen von Georgensgünd,' p. 43 (1834).

Hyotherium sindiense, Lyd.

'Rec. Geol. Surv. Ind.,' vol. xi., p. 77 (1878).

- B. 96. Three specimens of the second upper true molar¹ ; from the

Fig. Laki Hills, Sind. One specimen is figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. xii., fig. 10.

Collected by Messrs. Blanford and Fedden.

- B. 97. Three specimens of the first upper true molar ; from the Laki

Fig. Hills. Two are figured in the 'Pal. Ind.' *op. cit.* figs. 13, 14.

Collected by Messrs. Blanford and Fedden.

- B. 98. Three upper premolars ; from the Laki Hills. Two are figured

Fig. in the 'Pal. Ind.' *op. cit.* figs. 9, 15.

Collected by Messrs. Blanford and Fedden.

- B. 102. Fragment of the left maxilla, with $\overline{m. 2}$ and $\overline{m. 3}$; from the

Fig. Laki Hills. Figured in the 'Pal. Ind.' *op. cit.* fig. 6.

Collected by Mr. Fedden.

- B. 99. Four lower true molars ; from the Laki Hills. Two are figured

Fig. in the 'Pal. Ind.' *op. cit.* figs. 7, 8.

Collected by Messrs. Blanford and Fedden.

¹ The reference of this and some of the following specimens is provisional.

- B. 100.** Fragment of the right ramus of the mandible, with $\overline{m.4}$ and *Fig.* $\overline{m.1}$; from the Laki Hills. Figured in the 'Pal. Ind.' *op. cit.*, fig. 16. Collected by Messrs. Blanford and Fedden.

Hyotherium, sp., Lyd.

'Pal. Ind.' ser. 10, vol. iii., p. 97 (1884).

- B. 101.** Fragment of the left ramus of the mandible, with $\overline{m.2}$; from *Fig.* Perim Island. Figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. xii., fig. 5. *A. S. B. Collection.*

Genus **SANITHERIUM**, H. von Meyer.

'Palæontographica,' vol. xv., p. 15 (1865).

Sanitherium schlagintweiti, H. von Meyer.

'Palæontographica,' vol. xv., p. 15 (1865).

Syn. *Sus pusillus*, Falc.

- B. 87.** Part of the right ramus of the mandible, with $\overline{m.3}$; from *Fig.* Khushálgarh, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. viii., fig. 7.

Presented by Lieuts. Garnett and Trotter.

Genus **HIPPOHYUS**, Falc. and Caut.

In Owen's 'Odontography,' p. 562 (1840-45).

Hippohyus sivalensis, Falc. and Caut.

In Owen's 'Odontography,' p. 562 (1840-45).

- B. 317.** Cast of the cranium. The original, which is the type, is from the Siwalik Hills, and is in the British Museum; it is figured in the 'F. A. S.' pl. lxx., fig. 1. *A. S. B. Collection.*

- B. 65.** Fragment of the right maxilla, with $\overline{m.2}$ and $\overline{m.3}$; from *Fig.* Asnot, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. xii., fig. 17. *Collected by Mr. Theobald.*

- B. 66.** Part of the palate with $\overline{m.2}$ and $\overline{m.3}$; from the Punjab. *Fig.* The right side is figured in the 'Pal. Ind.' *op. cit.*, fig. 21. *Collected by Mr. Theobald.*

- B. 67.** A similar specimen to the last; from Jabi, Punjab. *Collected by Mr. Theobald.*

- B. 69.** Three fragments of the mandible; from Asnot. Two are *Fig.* figured in the 'Pal. Ind.' *op. cit.*, figs. 18, 20; the species of fig. 20 is doubtful. *Collected by Mr. Theobald.*

- B. 64.** The symphysis and the hinder portion of each ramus of the
Fig. mandible; from Kolsa, Punjab. Figured in the 'Pal. Ind.'
op. cit. figs. 3, 19. *Collected by Mr. Theobald.*
- B. 398.** Several fragments of teeth and jaws; from the Punjab.
Collected by Mr. Theobald.

Hippohyus, sp.

- B. 62.** An imperfect cranium; from the Potwâr district, Punjab.
Collected by Mr. Theobald.
- B. 63.** An imperfect cranium; from Asnot, Punjab.
Collected by Mr. Theobald.
- B. 68.** Part of the left ramus of the mandible; from Asnot. Figured
Fig. in the 'Pal. Ind.' ser. 10, vol. iii., pl. xii., fig. 4.
Collected by Mr. Theobald.
- B. 70.** Part of the right ramus of the mandible, with $\overline{\text{pm. 4}}$, $\overline{\text{m. 1}}$,
 and $\overline{\text{m. 2}}$; from Asnot. *Collected by Mr. Theobald.*

Genus SUS, Linn.

'Syst. Nat.,' ed. 12, vol. i., p. 102 (1766).

Sus giganteus, Falc. and Caut.

'Fauna Antiqua Sivalensis,' pt. 8, pl. lxxix. (1847).

Forsyth-Major ('Quart. Journ. Geol. Soc.' vol. xli., p. 3) is inclined to identify the pliocene *S. strossi* of the Val d'Arno with *S. giganteus*, but that species then included *S. falconeri*, so that it is uncertain to which form he refers.

- B. 1.** The nearly complete mandible provisionally assigned to this
Fig. species; from Asnot, Punjab. Figured in the 'Pal. Ind.'
 ser. 10, vol. iii., pl. xi., fig. 1. *Collected by Mr. Theobald.*

Sus titan, Lyd.

'Pal. Ind.' ser. 10, vol. iii., p. 59 (1884).

- B. 26.** The cranium, with the mandible attached; from Niki, Punjab.
Fig. This specimen is the type, and is figured in the 'Pal. Ind.'
 ser. 10, vol. iii., pl. ix. *Collected by Mr. Theobald.*
- B. 19.** The crown of the third right upper true molar; from Asnot,
Fig. Punjab. Figured in the 'Pal. Ind.' *op. cit.* pl. vii., fig. 6.
Collected by Mr. Theobald.

- B. 2.** Part of the right ramus of the mandible with the four last
Fig. teeth ; from the Potwár district, Punjab. Figured in the
'Pal. Ind.' *op. cit.* fig. 4 (misquoted B. 4).
Collected by Mr. Theobald.
- B. 435.** Part of the right ramus of the mandible, with pm. 4, m. 1,
Fig. and m. 2 ; from Asnot. Figured in the 'Pal. Ind.' *op. cit.*
pl. viii., fig. 1. *Collected by Mr. Theobald.*
- B. 358.** Part of the right ramus of the mandible ; from the Punjab.
Collected by Mr. Theobald.
- B. 15.** The third right lower true molar ; from the Potwár district.
Figured in the 'Pal. Ind.' *op. cit.* pl. vii., fig. 3.
Collected by Mr. Theobald.
- B. 13.** Distal half of the left radius, associated with No. B 26.
Fig. Figured in the 'Pal. Ind.' *op. cit.* pl. xii., fig. 1.
Collected by Mr. Theobald.
- B. 13a.** The third and fourth left metacarpals, associated with the
Fig. last specimen. Figured in the 'Pal. Ind.' *op. cit.* fig. 2.
Collected by Mr. Theobald.
- B. 13b.** A proximal phalangeal, associated with the last.
Collected by Mr. Theobald.
- B. 255.** Distal portion of the right tibia, associated with the last.
Collected by Mr. Theobald.

Sus falconeri, Lyd.

'Pal. Ind.' ser. 10, vol. iii., p. 66 (1884).

- B. 18.** Fragment of the right maxilla, with m. 2 and m. 3 ; from the
Fig. Siwalik Hills. Figured in the 'Pal. Ind.' ser. 10, vol. iii.,
pl. vii., fig. 8. *A. S. B. Collection (No. S. 318).*
- B. 16.** Fragment of the right ramus of the mandible, with m. 2 and
Fig. m. 3 ; from the Siwalik Hills. Figured in the 'Pal. Ind.'
op. cit. fig. 2. *A. S. B. Collection (No. S. 319).*

The following specimens belong to one or other of the three preceding species. When they were originally numbered by the writer he had not determined the two species S. titan and S. falconeri ; and as he has not seen the specimens since those species were established, he is unable to say to which they belong :—

- B. 6.** Fragment of the left maxilla, with the three molars ; from
Asnot, Punjab. *Collected by Mr. Theobald.*

- B. 7.** Part of the left maxilla, with m. 1 and m. 2 ; from the Potwár, Punjab.
Collected by Mr. Theobald.
- B. 27.** An imperfect cranium ; from Jabi, Punjab.
Collected by Mr. Theobald.
- B. 354.** The right maxilla of an immature individual ; from the Punjab.
Collected by Mr. Theobald.
- B. 20.** Three upper molars ; from the Punjab.
Collected by Mr. Theobald.
- B. 14.** Several upper premolars ; from the Punjab.
Collected by Mr. Theobald.
- B. 3.** The symphysis of a mandible ; from Boghám.
Collected by Mr. Theobald.
- B. 4.** Part of left ramus of a mandible ; from the Potwár.
Collected by Mr. Theobald.
- B. 5.** Part of right ramus of a mandible of a very old individual showing m. 2 and m. 3 ; from the Punjab.
Collected by Mr. Theobald.
- B. 6.** Part of left ramus of a mandible showing the canine ; from the Punjab.
Collected by Mr. Theobald.
- B. 9.** Fragment of left ramus of a mandible with pm. 3 ; from the Potwár.
Collected by Mr. Theobald.
- B. 11.** Right ramus of the mandible of a small form ; from Gugrot.
Collected by Mr. Theobald.
- B. 12.** Two portions of lower canines ; from the Punjab.
Collected by Mr. Theobald.
- B. 17.** The crown of a third lower molar ; from the Punjab.
Collected by Mr. Theobald.
- B. 21.** Part of left ramus of the mandible, with m. 2 and m. 3 ; from Asnot.
Collected by Mr. Theobald.
- B. 22.** A third left lower molar ; from the Potwár.
Collected by Mr. Theobald.
- B. 23.** Two specimens of the third left lower molar ; from Pinjor.
Collected by Mr. Theobald.
- B. 24.** A third left lower molar ; from the Potwár.
Collected by Mr. Theobald.

- B. 25. Fragment of left ramus of the mandible of a young individual showing $\overline{m. 1}$ protruded and $\overline{m. 2}$ in *alveolo*; from the Punjab.
Collected by Mr. Theobald.

- B. 397. Detached teeth, &c.; from the Punjab.
Collected by Mr. Theobald.

Sus hysudricus, Falc. and Caut.

'Fauna Antiqua Sivalensis,' pt. 8, pl. lxx. (1847).

- B. 28. An imperfect cranium; from the Punjab.
Collected by Mr. Theobald.

- B. 29. The cranium; from Jabi, Punjab.
Collected by Mr. Theobald.

- B. 45. Part of the right maxilla, with the three molars; from Asnot, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. viii., fig 10.
Collected by Mr. Theobald.

- B. 46. Fragment of the left maxilla, with $\overline{pm. 4}$, $\overline{m. 1}$, and $\overline{m. 2}$; from Asnot. Figured in the 'Pal. Ind.' *op. cit.* fig. 11.
Collected by Mr. Theobald.

- B. 47. A specimen similar to the last, but with the teeth less worn; from Asnot.
Collected by Mr. Theobald.

- B. 30. The right ramus of the mandible; from the Potwár district, Punjab. Figured in the 'Pal. Ind.' *op. cit.* fig. 3.
Collected by Mr. Theobald.

- B. 436. Fragment of the left ramus of the mandible, with $\overline{mm. 4}$ and $\overline{m. 1}$; from Khushálgarh, Punjab. Figured in the 'Pal. Ind.' *op. cit.* fig. 6.
Collected by Mr. Theobald.

- B. 34. Two associated portions of the mandible; from Lehri, Punjab.. Figured in the 'Pal. Ind.' *op. cit.* fig. 2.
Collected by Mr. Theobald.

- B. 31. Part of the left ramus of the mandible; from Asnot.
Collected by Mr. Theobald.

- B. 32. Part of the right ramus of the mandible; from the Potwár district.
Collected by Mr. Theobald.

- B. 33. Part of the right ramus of the mandible of a young individual; from Padri.
Collected by Mr. Theobald.

- B. 35. The symphysis and part of the left ramus of the mandible; from the Punjab.
Collected by Mr. Theobald.

- B. 36. Part of the left ramus of the mandible, with $\overline{m. 2}$ and $\overline{m. 3}$; from Asnot. *Collected by Mr. Theobald.*
- B. 37. Part of the left ramus of the mandible, with portions of five teeth; from the Potwâr district. *Collected by Mr. Theobald.*
- B. 38. The symphysis of the mandible; from the Potwâr district. *Collected by Mr. Theobald.*
- B. 39. The alveolar portion of the left ramus of the mandible, showing five cheek-teeth in a well-worn condition; from Asnot. *Collected by Mr. Theobald.*
- B. 50. Fragment of the right ramus of the mandible of a young individual, with $\overline{mm. 4}$ and $\overline{m. 1}$; from Asnot. Figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. viii., fig. 5. *Collected by Mr. Theobald.*
- B. 40. Fragment of the left ramus of the mandible with $\overline{m. 2}$ and $\overline{m. 3}$; from the Punjab. *Collected by Mr. Theobald.*
- B. 41. Fragment of the left ramus of the mandible, with $\overline{m. 3}$; from the Punjab. *Collected by Mr. Theobald.*
- B. 42. Fragment of the left ramus of the mandible, with $\overline{pm. 3}$, $\overline{pm. 4}$ and $\overline{m. 1}$; from Jabi. *Collected by Mr. Theobald.*
- B. 43. Part of the left ramus of the mandible with $\overline{m. 2}$ and $\overline{m. 3}$; from Niki, Punjab. *Collected by Mr. Theobald.*
- B. 44. Part of the left ramus of the mandible, with the three molars; from the Punjab. *Collected by Theobald.*
- B. 49. Greater portion of the left ramus of the mandible of an adolescent individual; from Pinjer. *Collected by Mr. Theobald.*
- B. 51. Fragment of the right ramus of the mandible of a specimen with milk-dentition; from Asnot. *Collected by Mr. Theobald.*
- B. 52. Two specimens of the left ramus of the mandible of young individuals with milk-dentition; from Asnot. *Collected by Mr. Theobald.*
- B. 53. Fragment of the right ramus of the mandible of a young individual, with $\overline{pm. 3}$, $\overline{mm. 4}$, and $\overline{m. 1}$ in germ; from Jabi. Figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. viii., fig. 8. *Collected by Mr. Theobald.*

- B. 54. Part of the right ramus of the mandible, with the three true molars ; from Perim Island. *A. S. B. Collection.*
- B. 55. Three specimens of $\overline{m. 3}$; from the Potwár district.
Collected by Mr. Theobald.
- B. 56. Three specimens of $\overline{m. 3}$; from the Laki Hills, Sind.
Collected by Messrs. Blanford and Fedden.
- B. 57. Three fragments of the maxilla ; from the Potwár district.
Collected by Mr. Theobald.
- B. 58. An upper true molar ; from Sylhet. *No history.*
- B. 59-60. Detached molars ; from the Punjab.
Collected by Mr. Theobald.
- B. 396. Detached teeth ; from the Punjab.
Collected by Mr. Theobald.
- B. 48. A metacarpal ; from Asnot. *Collected by Mr. Theobald.*

Sus punjabiensis, Lyd.

'Rec. Geol. Surv. Ind.,' vol. xi., p. 81 (1878).

- B. 61. Hinder part of the left ramus of the mandible, with the three
Fig. molars ; from Asnot, Punjab. This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. viii., fig. 9.
Collected by Mr. Theobald.

Sus, sp., Lyd.

- B. 10. Portion of the left ramus of the mandible, with canine, $\overline{pm. 3}$
Fig. and $\overline{pm. 4}$; from Asnot, Punjab. Figured in the 'Pal. Ind.'
op. cit. pl. viii., figs. 4, 4a. *Collected by Mr. Theobald.*

Sus, sp.

- B. 438. Fragment of the right ramus of the mandible with $\overline{m. 3}$; from the Hoshiarpur District. This specimen is apparently distinct from any of the species noticed above ; it will be figured in the Introduction to vol. iii of ser. 10 of the 'Pal. Ind.'
Collected by Mr. Theobald.

Family HIPPOPOTAMIDÆ.

Genus HIPPOPOTAMUS, Linn.

Including *Hexaprotodon* and *Tetraprotodon*, Falc. and Caut.
'Syst. Nat.,' ed. 12, vol. i., p. 101 (1766).

Hippopotamus sivalensis, Falc. and Caut.

'Asiatic Researches,' vol. xix., p. 40 (1836).

- B. 287.** Three crania ; from the Punjab. *Collected by Mr. Theobald.*
- B. 288.** Two crania ; from the Punjab. *Collected by Mr. Theobald.*
- B. 288a.** The cranium (marked G. A.) ; from the Márkanda valley.
Presented by Col. Godwin-Austen, 1866.
- B. 289.** Three crania ; from the Siwalik Hills. *A. S. B. Collection.*
- B. 290.** Three crania ; from the Siwalik Hills. *A. S. B. Collection.*
- B. 303.** Cast of the cranium. The original is from the Siwalik Hills, and is in the British Museum ; it is figured in the 'F. A. S.' pl. lix., fig. 1 ; and in the 'Pal. Ind.' ser. 10, vol. iii., p. 38 (woodcut). *A. S. B. Collection.*
- B. 404a.** The cranium ; from the Punjab. *Collected by Mr. Theobald.*
- B. 80.** Part of the right maxilla, with the three true molars ; from the Kangra district. *Collected by Mr. Theobald.*
- B. 81.** Part of the right maxilla, with the last two milk-molars ; from the Punjab. *Collected by Mr. Theobald.*
- B. 302.** The palate and two fragments of maxillæ ; from the Punjab. *Collected by Mr. Theobald.*
- B. 400.** Several maxillæ ; from the Punjab. *Collected by Mr. Theobald.*
- B. 395.** The left ramus of the mandible of a small specimen ; from the Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. vi., fig. 1. *Collected by Mr. Theobald.*
- B. 74.** Part of the left ramus of the mandible, with the three molars ; from Asnot, Punjab. *Collected by Mr. Theobald.*
- B. 291.** Three specimens of the mandible ; from the Kangra district. *Collected by Mr. Theobald.*
- B. 292.** Three rami of the mandible ; from the Kangra district. *Collected by Mr. Theobald.*
- B. 293.** Three specimens of the mandible ; from the Siwalik Hills. *A. S. B. Collection.*
- B. 301.** Two fragments of the mandible ; from the Punjab. *Collected by Mr. Theobald.*

- B. 401-403. Various portions of mandibles ; from the Punjab.
Collected by Mr. Theobald.
- B. 307. Symphysis of the mandible of a young individual ; from Padri.
Collected by Mr. Theobald.
- B. 308. A similar specimen to the last. *Same history.*
- B. 75. Three upper true molars ; from the Punjab.
Collected by Mr. Theobald.
- B. 76. An upper true molar ; from the Punjab.
Collected by Mr. Theobald.
- B. 76a. An upper true molar ; from the Siwalik Hills.
A. S. B. Collection.
- B. 78. Two premolars ; from Asnot. *Collected by Mr. Theobald.*
- B. 78a. A premolar ; from the Siwalik Hills. *A. S. B. Collection.*
- B. 79. Two associated well-worn premolars ; from Asnot.
Collected by Mr. Theobald.
- B. 402. Various teeth ; from the Punjab. *Collected by Mr. Theobald.*
- B. 77. Three lower molars ; from the Potwár, Punjab.
Collected by Mr. Theobald.
- B. 294. Three canines ; from the Punjab. *Collected by Mr. Theobald.*
- B. 73. Two broken canines ; from the Potwár.
Collected by Mr. Theobald.
- B. 73a. Part of a canine ; from the Siwalik Hills.
A. S. B. Collection.
- B. 72. The lower canine ; from Asnot. *Collected by Mr. Theobald.*
- B. 295. Three portions of lower canines ; from the Siwalik Hills.
A. S. B. Collection.
- B. 300. The distal extremity of the humerus ; from the Siwalik Hills.
A. S. B. Collection.
- B. 298. Three fragments of the femur ; from the Siwalik Hills.
A. S. B. Collection.
- B. 300a. The patella ; from the Siwalik Hills. *A. S. B. Collection.*
- B. 399. Various limb-bones ; from the Punjab.
Collected by Mr. Theobald.
- B. 357. The cuboid ; from the Punjab. *Collected by Mr. Theobald.*

- B. 378. The astragalus ; from the Punjab. *Collected by Mr. Theobald.*
- B. 299. Two astragali ; from the Punjab. *Collected by Mr. Theobald.*
- B. 296. The axis vertebra ; from the Punjab.
Collected by Mr. Theobald.
- B. 296a. The axis vertebra ; from the Siwalik Hills.
A. S. B. Collection.

Hippopotamus iravaticus, Falc. and Caut.

'Fauna Antiqua Sivalensis,' pt. 7, pl. lvii. (1847).

The following specimens are provisionally referred to this species :—

- B. 304. Two fragments of the mandible ; from Burma. *No history.*
- B. 305. The occiput ; from Burma. *No history.*
- B. 306. Parts of the left humerus, radius, and ulna ; from Burma.
No history.

Family LISTRIODONTIDÆ.

Genus **LISTRIODON**, H. von Meyer.

'Neues Jahrb.,' 1846, p. 466.

Listriodon pentapotamiæ, Falc.

Syn. *Tapirus pentapotamiæ*, Falc.

'Palæontological Memoirs,' vol. i., p. 415 (1868).

- B. 107. Second and part of third right upper true molars and
Fig. the associated fourth premolars of both sides ; from
Khushálgarh, Punjab. The true molars are the types, and
are figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. viii., figs.
15a and 17. *Presented by Lieuts. Garnett and Trotter.*
- B. 107a. First right upper true molars ; from the Punjab. Figured
Fig. in the 'Pal. Ind.' *op. cit.* fig. 13. *Collected by Mr. Theobald.*
- B. 108. Three associated upper molars, and an incisor ; from Niki,
Fig. Punjab. Figured in the 'Pal. Ind.' *op. cit.* figs. 14, 15, 16.
Collected by Mr. Theobald.

Listriodon theobaldi, Lyd.

'Rec. Geol. Surv. Ind.,' vol. xi., p. 98 (1878).

- B. 109. The second (P) right upper true molar ; from Asnot, Punjab.
Fig. This specimen is the type, and is figured in the 'Pal. Ind.'
ser. 10, vol. iii., pl. viii., fig. 12. *Collected by Mr. Theobald.*

Suborder *PERISSODACTYLA*.

Family EQUIDÆ.

Genus *EQUUS*, Linn.

'Syst. Nat.,' ed. 12, vol. i., p. 100 (1766).

Equus sivalensis, Falc. and Caut.

'Fauna Antiqua Sivalensis,' pt. 9, pl. lxxxi., fig. 1 (1849).

- C. 178. Cast of the cranium. The original, which is the type, is in the British Museum, and was obtained from the Siwalik Hills. It is figured in the 'F. A. S.' pl. lxxxi, fig. 1.

A. S. B. Collection.

- C. 179. The cranium; from Padri. The dentition is figured in the *Fig.* 'Pal. Ind.' ser. 10, vol. ii., pl. xiv., fig. 2.

Collected by Mr. Theobald.

- C. 193. The cranium, with the crowns of the molars broken off, provisionally referred to this species; from Padri. Noticed in the 'Pal. Ind.' *op. cit.* p. 89. *Collected by Mr. Theobald.*

- C. 180. Part of the right maxilla, with the last four cheek-teeth; from Babhor. Noticed in the 'Pal. Ind.' *op. cit.* p. 88.

Collected by Mr. Theobald.

- C. 181. Part of the right maxilla, with the last five cheek-teeth from *Fig.* Rúpar. Figured in the 'Pal. Ind.' *op. cit.* pl. xiv., fig. 1.

Collected by Mr. Theobald.

- C. 182. Part of the right maxilla of a young individual, with the last *Fig.* 3 milk-molars and m. 1; from the Hoshiárpúr district. Figured in the 'Pal. Ind.' *op. cit.* pl. xv., fig. 1.

Collected by Mr. Theobald.

- C. 183. Cast of the greater part of the right ramus of the mandible. The original, which is in the British Museum, is from the Siwalik Hills, and is figured in the 'F. A. S.' pls. lxxxi., fig. 4, and lxxxii., fig. 2. *A. S. B. Collection.*

- C. 184. The nearly complete mandible; from the Siwalik Hills. Noticed in the 'Pal. Ind.' *op. cit.* p. 90.

A. S. B. Collection (No. S. 303).

Equus namadicus, Falc. and Caut.Syn. *E. palæonius*, Falc. and Caut.

'Fauna Antiqua Sivalensis,' pt. 9, pl. lxxxi. (1849).

- C. 194. The left maxilla, showing the cheek dentition in a well-worn condition; from Padri. Figured in the 'Pal. Ind.' ser. 10. vol. ii., pl. xiv., fig. 3. *Collected by Mr. Theobald.*

- C. 195. Part of the right maxilla, with the last three premolars and Fig. pl. 1; from Kangra. Figured in the 'Pal. Ind.' *op. cit.* pl. xv., fig. 4. *Collected by Mr. Theobald.*

Specifically undetermined specimens.

- C. 186. The premaxillæ of an individual 5 or 6 years old; from the Siwalik Hills. Noticed in the 'Pal. Ind.' ser. 10, vol. ii., p. 89. *A. S. B. Collection (No. S. 305).*

- C. 187. Two upper molars; from the Siwalik Hills. *A. S. B. Collection.*

- C. 187a. An upper molar; from the Kangra district. *Collected by Mr. Theobald.*

- C. 188. Two upper premolars; from the Kangra and Hoshiarpur districts. *Collected by Mr. Theobald.*

- C. 189. Three upper molars; from the Kangra district. *Collected by Mr. Theobald.*

- C. 190. A left upper milk-molar; from the Kangra district. *Collected by Mr. Theobald.*

- C. 198-200. Nine upper molars; from the Kangra and Hoshiarpur districts. *Collected by Mr. Theobald.*

- C. 173. Part of the right ramus of the mandible, with the three Fig. true molars; from Náhan. Figured in the 'Pal. Ind.' *op. cit.* pl. xii., fig. 5. *A. S. B. Collection (No. S. 307).*

- C. 191. } Six lower molars; from Rúpar. *Collected by Mr. Theobald.*
C. 192. }

- C. 185. The left ramus of the mandible of a young individual, with three milk-molars; from Nanowal. *Collected by Mr. Theobald.*

- C. 196. Part of the left ramus of the mandible of an immature individual, with mm. 3, mm. 4 and the three true molars; from Nanowal. *Collected by Mr. Theobald.*

- C. 203.** Part of the right ramus of the mandible, with pm. 3. pm. 4.
and the three true molars; from Nanowal.
Collected by Mr. Theobald.
- C. 204.** Part of the right ramus of the mandible, with three pre-
molars; from Nanowal.
Collected by Mr. Theobald.
- C. 202.** The humerus; from Padri.
Collected by Mr. Theobald.
- C. 205.** The distal extremity of the metacarpus; from the Siwalik
Hills.
A. S. B. Collection.
- C. 212.** The metacarpus, in two fragments; from Padri.
Collected by Mr. Theobald.
- C. 219.** Two specimens of the patella; from Padri.
Collected by Mr. Theobald.
- C. 201.** Two specimens of the tibia; from Gogret.
Collected by Mr. Theobald.
- C. 208.** Two specimens of the distal extremity of the tibia; from
near Hoshiárpúr.
Collected by Mr. Theobald.
- C. 215. } Four specimens of the astragalus; from Padri.**
C. 216. }
Collected by Mr. Theobald.
- C. 217. } Five specimens of the calcaneum; from Padri.**
C. 218. }
Collected by Mr. Theobald.
- C. 211.** The metatarsus; from Padri.
Collected by Mr. Theobald.
- C. 206.** A first phalangeal; from Deola, on the Bías.
Collected by Mr. Theobald.
- C. 207.** Two specimens of the first phalangeal; from Padri.
Collected by Mr. Theobald.
- C. 210.** Two specimens of the first phalangeal; from Padri.
Collected by Mr. Theobald.
- C. 209.** Two specimens of the second phalangeal; from Padri.
Collected by Mr. Theobald.
- C. 213.** Two specimens of the second phalangeal; from Padri.
Collected by Mr. Theobald.
- C. 214.** Two specimens of the third phalangeal; from Padri.
Collected by Mr. Theobald.

- C. 221.** Cast of the atlas vertebra. The original is from the Siwalik Hills, and is in the British Museum; it is figured in the 'F. A. S.' pl. lxxxiii., fig. 1. *A. S. B. Collection.*

- C. 220.** A cervical vertebra; from Padri. *Collected by Mr. Theobald.*

Genus **HIPPARION**, Christol.

Syn. *Hippotherium*, Kaup.

'Ann. Sci. et Industrie d. Midi. d. l. France,' vol. i., p. 180 (1832),
teste Christol.

Hipparion antilopinum (Falc. and Caut.).

Syn. *Hippotherium antilopinum*, Falc. and Caut.

'Fauna Antiqua Sivalensis,' pt. 9, pl. lxxxii. (1849).

- C. 141.** Cast of part of the maxilla, with the six permanent cheek-teeth. The original is from the Siwalik Hills, and is in the British Museum; it is figured in the 'F. A. S.' pl. lxxxii., fig. 13. *A. S. B. Collection.*

- C. 138.** Palate of a young individual, showing the four milk-molars *Fig.* and *m. 1*; from Niki, Punjab. The left dentition is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xi., fig. 2.

Collected by Mr. Theobald.

- C. 139.** Part of the left maxilla, containing *pm. 3*, *pm. 4*, *m. 1*, *Fig.* and *m. 2*; from Niki. Figured in the 'Pal. Ind.' *op. cit.* pl. xi., fig. 1. *Collected by Mr. Theobald.*

- C. 174.** Part of the right maxilla, with *pm. 3*, *pm. 4*, and *m. 1*; from the Punjab. *Collected by Mr. Theobald.*

- C. 149.** Three upper molars; from the Punjab.

Collected by Mr. Theobald.

- C. 257.** Several upper molars, cut and polished; from the Punjab. *Fig.* One is figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. iii., fig. 4

Collected by Mr. Theobald.

- C. 140.** Cast of the right ramus of the mandible, showing most of the permanent cheek-dentition. The original is from the Siwalik Hills, and is in the British Museum; it is figured in the 'F. A. S.' pl. lxxxii., fig. 14. *A. S. B. Collection.*

- C. 145.** Part of the left ramus of the mandible, showing three premolars, *m. 1* and *m. 2*; from Jabi, Punjab.

Collected by Mr. Theobald.

- C. 146. Part of the left ramus of the mandible, with three premolars and m. 1.; from Perim Island.

A. S. B. Collection (No. P. 34).

- C. 147. Part of the left ramus of the mandible, with the three true molars; from the Punjab. *Collected by Mr. Theobald.*

- C. 148. Part of the left ramus of the mandible of a young individual
Fig. provisionally referred to this species; from the Punjab.
 The specimen shows the last three milk-molars and m. 1.,
 and is figured in the 'Pal. Ind.' *op. cit.* pl. xii., fig. 1.

Collected by Mr. Theobald.

- C. 152. Part of the left ramus of the mandible, with the three true molars; from the Punjab. *Collected by Mr. Theobald.*

- C. 142. Part of the right ramus of the mandible, with pm. 3., pm. 4. and the three true molars; from Jabi. The teeth are of very small size.
Collected by Mr. Theobald.

- C. 143. Part of the right ramus of the mandible, with three premolars and m. 1.; from Jabi. *Collected by Mr. Theobald.*

- C. 171. Two specimens of the first median phalangeal; from the Punjab. *Collected by Mr. Theobald.*

- C. 150. The atlas vertebra; from Perim Island.

A. S. B. Collection (No. P. 67).

Hipparion theobaldi, Lyd.

Syn. *Sivalhippus theobaldi*, Lyd.

Hippotherium theobaldi, Lyd.

'Rec. Geol. Surv. Ind.,' vol. x., p. 31 (1877).

- C. 175. The damaged cranium of an immature individual, showing milk and permanent molars; from the Punjab.

Collected by Mr. Theobald.

- C. 151. Part of the left maxilla, with pm. 3., pm. 4. and the three true molars; from Niki, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. xi., fig. 3.

Collected by Mr. Theobald.

- C. 153. Part of the left maxilla of a young individual containing the
Fig. four milk-molars (crown of mm. 1 broken off), and m. 1
in alveolo; from Kaipar, Punjab. This specimen is the type,
 and is figured in the 'Pal. Ind.' *op. cit.* pl. xi., fig. 4.

Collected by Mr. Theobald

- C. 154. Fragment of the left maxilla of a young individual, showing mm. 3 and mm. 4; from Niki. Noticed in the 'Pal. Ind.' *op. cit.* p. 83. *Collected by Mr. Theobald.*
- C. 153. Two fragments of the left maxilla, one showing two premolars, and the other the three true molars; from Perim Island. *A. S. B. Collection (Nos. P. 34, P. 111).*
- C. 155. Three specimens of the second upper true molar; from the *Fig.* Punjab. One is figured in the 'Pal. Ind.' *op. cit.* pl. xiii., fig. 2. *Collected by Mr. Theobald.*
- C. 156-157. Six specimens of upper premolars and true molars; from the Punjab. One premolar is figured in the 'Pal. Ind.' *Fig.* *op. cit.* pl. xiii., fig. 1. *Collected by Mr. Theobald.*
- C. 159. Three associated fragments of the mandible, probably belonging to the same individual as No. C. 151; from Niki. *Fig.* The left ramus is figured in the 'Pal. Ind.' *op. cit.* pl. xii., fig. 2. *Collected by Mr. Theobald.*
- C. 160. Fragment of the left ramus of the mandible, with pm. 2 and pm. 3; from the Punjab. *Collected by Mr. Theobald.*
- C. 161. Part of the left ramus of the mandible, with pm. 4 and the three true molars; from the Punjab. *Collected by Mr. Theobald.*
- C. 172. Part of the right ramus of the mandible, with pm. 4 and the three true molars; from Jabi, Punjab. *Fig.* Figured in the 'Pal. Ind.' *op. cit.* pl. xii., fig. 4. *Collected by Mr. Theobald.*
- C. 176. Symphysis of the mandible of an 'aged' male; from Jabi. Inferred to belong to *Hipparion*, since no remains of *Equus* have been obtained from the Jabi district. *Collected by Mr. Theobald.*
- C. 177. Symphysis of the mandible of a still older individual; from Jabi. *Collected by Mr. Theobald.*
- C. 144. The left ramus of the mandible of a young individual, showing the last three milk-molars and the germ of m. 1; from the Punjab. *Collected by Mr. Theobald.*
- C. 162-163. Six specimens of lower premolars; from the Punjab. *Collected by Mr. Theobald.*
- C. 256. Upper molars, cut and polished; from the Punjab. *Collected by Mr. Theobald.*

- C. 54. The associated left upper pm. 2 and pm. 3; from Lehri, Punjab.
Collected by Mr. Theobald.
- C. 77. The second right upper premolar; from the Punjab. Figured in the 'Pal. Ind.' *op. cit.* vol. ii., pl. v., fig. 3.
Collected by Mr. Theobald.
- C. 23. Two specimens of the first or second upper true molar; Fig. from the Punjab. One specimen is figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. v., fig. 5, and vol. iii., pl. i., fig. 7.
Collected by Mr. Theobald.
- C. 23a. The first or second right upper true molar; from the Punjab. Fig. Figured in the 'Pal. Ind.' *op. cit.* vol. ii., pl. v., fig. 1.
Collected by Mr. Theobald.
- C. 24. Two imperfect first or second upper true molars; from the Punjab.
Collected by Mr. Theobald.
- C. 29. A much-worn first or second left upper true molar; from the Punjab.
Collected by Mr. Theobald.
- C. 30. A similar specimen to the last; from Niki, Punjab.
Collected by Mr. Theobald.
- C. 33. An imperfect third right upper true molar; from Sind (? var. *intermedius*).
Collected by Mr. Fedden.
- C. 35. Two specimens of the outer wall of an upper true molar; from the Salt-Range.
Collected by Mr. Wynne.
- C. 37. The germ of a first or second left upper true molar; from the Punjab. Figured in the 'Pal. Ind.' *op. cit.* vol. ii., pl. v., fig. 5.
Collected by Mr. Theobald.
- C. 41. The associated third upper true molars; from Jabi. One specimen is figured in the 'Pal. Ind.' *op. cit.* vol. ii., pl. v., fig. 4 (erroneously quoted as C. 11 in description of plate).
Collected by Mr. Theobald.
- C. 43. A third right upper true molar, with a double crochet; from the Punjab.
Collected by Mr. Theobald.
- C. 51. The inner portion of a left upper true molar, perhaps belonging to this species; from Lehri. Figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. iv., fig. 1 (under the name of *R. palæindicus*).

- C. 46. The right and left maxillæ of a young individual, provisionally referred to this species, and showing the last three milk-molars; from Jabi. The left side figured in the 'Pal. Ind.' *op. cit.*, vol. ii., pl. vi., fig 2. *Collected by Mr. Theobald.*
- C. 40. An early upper milk-molar; from Asnot.
Collected by Mr. Theobald.
- C. 48. Three specimens of second upper premolars agreeing with No. C. 46; from Sind. *Collected by Mr. Fedden.*
- C. 52. The fourth right upper milk-molar; from the Punjab.
Collected by Mr. Theobald.
- C. 53. The third right upper milk-molar; from the Punjab.
Collected by Mr. Theobald.
- C. 56. The symphysis and the left ramus of the mandible, showing
Fig. entire molar series and the sockets of a pair of canines¹; from the Punjab. Figured in the 'Pal. Ind.' *op. cit.* vol. ii., pl. vi., fig. 3. *Collected by Mr. Theobald.*
- C. 55. Cast of the symphysis of the mandible. The original is from the Siwalik Hills, and is in the British Museum. It is figured in the 'F.A. S.' pl. lxxiv., fig. 4 (as *R. palæindicus*).
Purchased.
- C. 58. Cast of part of the left ramus of the mandible, showing $\overline{\text{pm. 4}}$ and the three true molars. The original is from the Siwalik Hills, and is in the British Museum. It is figured in the 'F. A. S.' pl. lxxiv., fig. 3 (as *R. palæindicus*). *Purchased.*
- C. 61. Part of the right ramus of the mandible, with $\overline{\text{pm. 4}}$ and the three true molars; from the Punjab. The ramus has a depth of 3.9 inches at $\overline{\text{m. 2}}$, and thereby agrees with No. C. 56. *Collected by Mr. Theobald.*
- C. 250. The symphysis and one ramus of the mandible agreeing with No. C. 56; from Perim Island.
Captain Searle's Collection.
- C. 251. Part of the mandible of a young individual, provisionally referred to the present species; from Perim Island.
Captain Searle's Collection.
- C. 45. Part of the mandible of a young individual, provisionally referred to this species; from Sind.
Collected by Mr. Fedden.

¹ For the question as to the reference of the mandibles of the different species of Siwalik rhinoceroses, see 'Pal. Ind.' ser. 10, vol. ii., pp. 36-39.

- C. 57. A lower canine ; from the Punjab. *Collected by Mr. Theobald.*

Var. *intermedius*, Lyd.

'Pal. Ind.' ser. 10, vol. iii., p. 5 (1884).

- C. 34. The second left upper true molar ; from Sind. Figured in the
Fig. 'Pal. Ind.' *op. cit.* vol. ii., pl. v., fig. 2 ; and vol. iii., pl. i.,
fig. 3. *Collected by Mr. Fedden.*

- C. 265. Fragment of the left maxilla with the damaged m. 1 and
m. 2 ; from Gandoi, Búgti Hills.

Collected by Mr. Blanford, 1882.

Var. *gajensis*, Lyd.

'Pal. Ind.' ser. 10, vol. ii., p. 40 (1881).

- C. 36. The hinder part of the cranium, and the first right upper
Fig. true molar ; from the Gáj group of Sind. Figured in the
'Pal. Ind.' *op. cit.* vol. ii., pl. vii., fig. 1, pl. v., fig. 7 ; and
vol. iii., pl. i., fig. 4. *Collected by Mr. Fedden.*

Rhinoceros palæindicus, Falc. and Caut.

'Fauna Antiqua Sivalensis,' pt. 8, pl. lxxiii. (1847).

- C. 59. Cast of the cranium of a young individual with the milk-
dentition. The original is from the Siwalik Hills, and is
in the British Museum. It is figured in the 'F. A. S.'
pl. lxxiv., fig. 1 ; the right dentition is figured (from a cast)
in the 'Pal. Ind.' ser. 10, vol. ii., pl. vii., fig. 3. Another
specimen of the right upper milk-molars (in which mm. 3
has a distinct crochet) is figured in the 'Trans. R. Dublin
Soc.' ser. 2, vol. iii., pl. iii., fig. 1. *A. S. B. Collection.*

- C. 25. Two little-worn upper premolars, provisionally referred to
this species ; from the Punjab. *Collected by Mr. Theobald.*

- C. 25a. A fourth right upper premolar, provisionally referred to this
Fig. species ; from the Punjab. Figured in the 'Pal. Ind.'
op. cit. vol. ii., pl. vii., fig. 2, (quoted as C. 26).

Collected by Mr. Theobald.

- C. 49. Cast of the second right upper true molar. The original is
from the Siwalik Hills, and is in the British Museum
(No. 39648). It is figured in the 'F. A. S.' pl. lxxv., fig. 4
(as a premolar), and in the 'Pal. Ind.' *op. cit.* vol. i., pl.
iv., fig. 3, and vol. iii., p. 4. A less worn specimen is
figured in the 'Trans. R. Dublin Soc.' *op. cit.* fig. 3.

Purchased.

- C. 65. Cast of the symphysis and part of the right ramus of the mandible, showing the first three premolars, mm. 4, m. 1, the canines and incisors. The original is from the Siwalik Hills, and is in the British Museum. It is figured in the 'F. A. S.' pl. lxxv., fig. 10 (as *R. platyrhinus*).

Purchased.

- C. 66. Symphysis of a mandible, agreeing with the last in the number and size of the cutting-teeth, but slightly different in form; from the Siwalik Hills.

No history.

- C. 44. Part of the right ramus of a mandible, provisionally referred to this species; from Pádri. The ramus is deeper than is *R. sivalensis* (No. C. 56); the depth at m. 2 being 4·6 inches.

Collected by Mr. Theobald.

- C. 67. A lower canine; from the Siwalik Hills. *A. S. B. Collection.*

- C. 68. A lower incisor; from Lehri. *Collected by Mr. Theobald.*

Rhinoceros platyrhinus, Falc. and Caut.

'Fauna Antiqua Sivalensis,' pt. 8, pl. lxxii. (1847).

- C. 64. Cast of the cranium. The original is from the Siwalik Hills, and is in the British Museum. It is figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. ix., fig. 2, the right dentition being figured (from a cast) in pl. viii. A detached upper true molar of the same species is figured in the 'Trans. R. Dublin Soc.' ser. 2, vol. iii., pl. iii., fig. 2.

A. S. B. Collection.

- C. 69. Cast of the third right upper true molar. The original is from the Siwalik Hills, and is in the British Museum; it is figured in the 'F. A. S.' pl. lxxv., fig. 12. *Purchased.*

- C. 70. The hinder half of the third right upper true molar; from the Siwalik Hills. *A. S. B. Collection.*

- C. 47. Cast of a fragment of the left maxilla of a young individual, provisionally assigned to this species, and showing mm. 2 and mm. 3. The original is from the Siwalik Hills, and is in the British Museum. The cast is figured in the 'Pal. Ind.' *op. cit.* vol. ii., pl. vii., fig. 4. *Purchased.*

- C. 71. Third right upper milk-molar, provisionally assigned to this species; from the Siwalik Hills.

A. S. B. Collection (No. S. 854).

- C. 72. Second right upper milk-molar, provisionally referred to this species; from the Siwalik Hills. Figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. vi., fig. 10, and noticed in vol. ii., p. 53. *A. S. B. Collection.*

Genus **ACERATHERIUM**, Kaup.

'Isis,' 1832, p. 904.

Aceratherium perimense, Falc. and Caut.

Syn. *Rhinoceros* (A.?) *perimensis*, Falc. and Caut. *R. planidens*, and *R. iravadicus*, Lyd.

'Fauna Antiqua Sivalensis,' pt. 8, pl. lxxv. (1847).

- C. 1. Cranium; from near Niki, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. i. *Collected by Mr. Theobald.*
- C. 73. Two fragments of the occiput; from Burma. Figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. v., fig. 3 (as *R. iravadicus*). *Collected by Mr. Blanford.*
- C. 2. Part of the left maxilla, showing all the cheek-teeth except *m. 3*; from near Jabi, Punjab. Figured in the 'Pal. Ind.' *op. cit.* vol. ii., pl. ii. *Collected by Mr. Theobald.*
- C. 3. Four imperfect associated right upper true molars; from Niki, Punjab. One specimen (*m. 3*) figured in the 'Pal. Ind.' *op. cit.* pl. iii., fig. 5. *Collected by Mr. Theobald.*
- C. 9. Two specimens of *pm. 4*; from Niki. The less worn specimen probably belonged to the same individual as No. C. 3. *Collected by Mr. Theobald.*
- C. 10. Fragment of the left maxilla, containing *pm. 3* and *pm. 4*; from Perim Island. Figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. vi., fig. 5, and noticed in vol. ii., p. 15. *A. S. B. Collection (No. P. 30).*
- C. 12. Three imperfect upper premolars; from Sind. One is figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. vi., fig. 6. *Collected by Mr. Fedden.*
- C. 237. An early upper premolar; from the Punjab. *Collected by Mr. Theobald.*
- C. 7. Three specimens of upper first or second true molars; from the Punjab. One is figured in the 'Pal. Ind.' *op. cit.* vol. ii., pl. iii., fig. 3. *Collected by Mr. Theobald.*

- C. 8. Three specimens of first and second upper true molars; from the Punjab. *Collected by Mr. Theobald.*
- C. 11. Three upper molars; from the Punjab. *Collected by Mr. Theobald.*
- C. 6. Two specimens of the third upper true molar; from the Punjab. *Collected by Mr. Theobald.*
- C. 13. Two imperfect first or second upper true molars; from Padri.
Fig. Figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. iv., figs. 7, 9; and described in text under the name of *Rhinoceros planidens*. *Collected by Mr. Theobald.*
- C. 74. A first or second left upper true molar; from Burma. *Fig.* Figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. v., fig. 1 (under the name of *R. iravadicus*), and vol. iii., pl. i., fig. 5. *No history.*
- C. 75. A first or second right upper true molar; found in a Pagoda in Burma. *Fig.* Figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. v., fig. 2. *Presented by Sir A. Phayre, K.C.S.I.*
- C. 18. Fragment of the left maxilla of a young individual, containing mm. 2 and mm. 3; from Asnot, Punjab. *Fig.* Figured in the 'Pal. Ind.' *op. cit.* vol. ii., pl. iii., fig. 2. *Collected by Mr. Theobald.*
- C. 76. Fragment of the right maxilla of a young individual, with mm. 2 and mm. 3; from Burma. *Fig.* Figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. v., fig. 4, under the name of *R. iravadicus*, and referred to the present species in vol. ii., p. 23. *No history.*
- C. 14. Two specimens of the upper incisor; from Asnot. One specimen is much worn; the other is unworn, and figured in the 'Pal. Ind.' *op. cit.* vol. ii., pl. iii., fig. 4. *Collected by Mr. Theobald.*
- C. 4. C. 5. Two portions of the mandible, apparently belonging to the same individual as No. C. 3; from Niki. *Collected by Mr. Theobald.*
- C. 15. Fragment of the right ramus of the mandible, with m. 3 and part of m. 2; from Jabi. *Collected by Mr. Theobald.*
- C. 17. Fragment of the left ramus of the mandible, with one milk (?) molar; from Perim Island. *A. S. B. Collection.*

- C. 62. Part of the left ramus of the mandible, with two broken molars of huge size; from the Punjab. The ramus measures more than 5.5 inches in depth, in which respect it agrees with No. C. 4. *Collected by Mr. Theobald.*
- C. 63. Part of the right ramus of the mandible, with $\overline{\text{pm. 3, pm. 4, and m. 1}}$; from the Punjab. *Collected by Mr. Theobald.*
- O. 130. Part of the right ramus of a mandible with $\overline{\text{m. 3}}$, provisionally assigned to the present species; from Perim Island. *A. S. B. Collection.*
- C. 238. Part of the left ramus of the mandible of an immature individual, showing $\overline{\text{m. 1}}$ in alveolo; from the Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. ii., pl. iii., fig. 1. *Collected by Mr. Theobald.*
- O. 249. Mandible provisionally referred to this species; from Perim Island. *Captain Searle's Collection.*
- O. 19. The angle of a mandible, provisionally referred to this species; from Janori. *Collected by Mr. Theobald.*
- C. 16. A lower molar; from Niki. *Collected by Mr. Theobald.*
- O. 16a. A lower molar; from the Siwalik Hills. *A. S. B. Collection.*

The following specimens are provisionally referred to this species on account of their large size; they were obtained from Perim Island and were presented by Captain Searle in 1882:—

- C. 252. The tibia.
 C. 253. The femur.
 C. 254. Part of the innominate.
 C. 255. The sacrum.

Aceratherium blanfordi, Lyd.

'Pal. Ind.' ser. 10, vol. iii., p. 2 (1884).

var. *major*, Lyd. (*op. cit.*)

- O. 268. Left maxilla, with three true molars; from Dera Búgti. Fig. Figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. i., fig. 1. This and the following specimens are the types. *Collected by Mr. Blandford, 1882.*
- C. 259. Second left upper true molar; from Gandoi, Búgti Hills. Fig. Figured in the 'Pal. Ind.' *op. cit.* pl. i., fig. 2. *Collected by Mr. Blandford, 1882.*

- C. 262.** Much-worn second right upper true molar; from Gandoi.
Fig. Figured in the 'Pal. Ind.' *op. cit.* pl. ii., fig. 2.
Collected by Mr. Blanford, 1882.
- O. 271.** Part of right ramus of the mandible; from Gandoi. Figured
Fig. in the 'Pal. Ind.' ser. 10, vol. iii., p. 6, woodcut, fig. 2.
Collected by Mr. Blanford, 1882.
- C. 272.** Mandible without teeth; from Gandoi.
Collected by Mr. Blanford, 1882.
- C. 260.** First and second right upper milk-molars; from Gandoi.
Fig. Figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. i., fig. 6.
Collected by Mr. Blanford, 1882.
- C. 258.** A right upper milk-molar (?); from Gandoi. Figured in the
Fig. 'Pal. Ind.' *op. cit.* vol. iii., pl. ii., fig. 1.
Collected by Mr. Blanford, 1882.
- C. 267.** Part of right ramus of the mandible, with one milk-molar;
Fig. from Dera Búgti. Figured in the 'Pal. Ind.' *op. cit.*
 vol. iii., pl. ii., fig. 3. *Collected by Mr. Blanford, 1882.*
- C. 50.** Fragment of the left maxilla, showing pm. 4, m. 1, and m. 2
Fig. from the Punjab. Figured in the 'Pal. Ind.' *op. cit.* vol. ii.,
 pl. vi., fig. 1 (as (?) *R. palæindicus*), and noticed in vol. iii.,
 p. 2. *Collected by Mr. Theobald.*
- C. 42.** A third right upper true molar, probably belonging to this
 species; from the Punjab. *Collected by Mr. Theobald.*
var. minor, Lyd. (op. cit.)
- C. 269.** Left maxilla with all the cheek-teeth; from Gandoi. Figured
Fig. in the 'Pal. Ind.' *op. cit.* pl. ii., fig. 4.
Collected by Mr. Blanford, 1882.
- C. 266.** Fragment of right maxilla, containing the three true molars,
 much obscured by matrix; from Gandoi.
Collected by Mr. Blanford, 1882.
- C. 270.** Part of left ramus of mandible, associated with C. 269.
Fig. Figured in the 'Pal. Ind.' *op. cit.* pl. ii., fig. 5.
Collected by Mr. Blanford, 1882.

Aceratherium (?) sp.

- C. 60.** Cast of a cranium, with milk and permanent cheek-dentition
 in a broken condition. The original is from the Siwalik
 Hills, and is in the British Museum (No. 48932). It
 is noticed in the 'Pal. Ind.' ser. 10, vol. iii., p. 4.
Purchased.

Specifically undetermined specimens belonging to Rhinoceros or Aceratherium.

- C. 93. Fragment of the left ramus of the mandible, with one molar ;
from the Punjab. *Collected by Mr. Theobald.*
- O. 94. Fragment of the left ramus of the mandible, with two milk-
(P) molars ; from the Punjab. *Collected by Mr. Theobald.*
- C. 95. Fragment of the right ramus of the mandible, with two molars ;
from the Punjab. *Collected by Mr. Theobald.*
- C. 96. Fragment of the right ramus of the mandible, with two molars ;
from the Punjab. *Collected by Mr. Theobald.*
- C. 97. Fragment of the right ramus of the mandible, with two
molars ; from the Punjab. *Collected by Mr. Theobald.*
- C. 98. Fragment of the right ramus of the mandible, with two
Fig. molars ; from the Siwalik Hills. The first tooth is figured
in the 'Pal. Ind.' ser. 10, vol. i., pl. vi., fig. 7.
A. S. B. Collection (Nos. S. 322-323).
- C. 99. Fragment of the right ramus of the mandible ; from the
Siwalik Hills. *A. S. B. Collection.*
- C. 78. Three specimens of first lower premolars ; from Sind.
Collected by Mr. Blanford.
- C. 79-86. Eight right lower molars ; from the Punjab.
Collected by Mr. Theobald.
- C. 87-91. Five left lower molars ; from the Punjab.
Collected by Mr. Theobald.
- C. 92. A right lower molar ; from Khushálgarh, Punjab. Figured in
Fig. the 'Pal. Ind.' ser. 10, vol. i., pl. vi., fig. 3.
Presented by Lieutenants Garnett and Trotter.
- C. 261, C. 263, Several lower molars ; from Gandoi, Búgti Hills.
C. 264. *Collected by Mr. Blanford, 1882.*
- C. 236. A lower canine ; from the Siwalik Hills.
By exchange with the Rürki Museum.
- C. 102. The glenoidal extremity of the scapula ; from the Punjab.
Collected by Mr. Theobald.
- C. 100. The distal extremity of the humerus ; from Niki, Punjab.
Collected by Mr. Theobald.

- C. 101. Two specimens of the proximal extremity of the humerus ;
from the Siwalik Hills. *A. S. B. Collection.*
- C. 107. Two specimens of the distal extremity of the radius from
Sind. *Collected by Mr. Fedden.*
- C. 108. Proximal extremity of the ulna ; from the Punjab.
Collected by Mr. Theobald.
- C. 125. Three specimens of the cuneiform of the carpus ; from the
Punjab. *Collected by Mr. Theobald.*
- C. 126. The cuneiform of the carpus ; from the Siwalik Hills.
A. S. B. Collection.
- C. 127. The cuneiform of the carpus ; from the Punjab. This bone
is more massive than the preceding.
Collected by Mr. Theobald.
- C. 226. The left cuneiform of the carpus ; from the Punjab.
Collected by Mr. Theobald.
- O. 128. Two specimens of the scaphoid ; from the Siwalik Hills.
A. S. B. Collection.
- C. 227. The magnum ; from the Punjab. *Collected by Mr. Theobald.*
- C. 111. The median right metacarpal, of a long type ; from the
Siwalik Hills. *A. S. B. Collection.*
- C. 112. A similar bone ; from the Punjab.
Collected by Mr. Theobald.
- C. 113. The median left metacarpal, of a shorter type ; from Sind.
Collected by Mr. Fedden.
- C. 114. The inner left metacarpal, probably belonging to the same
species as the last ; from Sind. *A. S. B. Collection.*
- C. 115. The outer left metacarpal of the same species ; from Sind.
Collected by Mr. Fedden.
- C. 116. An outer metacarpal ; from Sind. *Collected by Mr. Fedden.*
- C. 103. Three specimens of the proximal extremity of the femur ;
from the Punjab. *Collected by Mr. Theobald.*
- C. 104. Two specimens of the distal extremity of the femur ; from the
Siwalik Hills. *A. S. B. Collection.*
- C. 105. Two specimens of the patella ; from the Siwalik Hills.
A. S. B. Collection.

- C. 106. Two imperfect specimens of the patella ; from the Punjab.
Collected by Mr. Theobald.
- C. 109. Two specimens of the distal extremity of the tibia ; from the Siwalik Hills.
A. S. B. Collection.
- C. 110. The distal extremity of the tibia ; from Sind.
Collected by Mr. Fedden.
- C. 117. Three specimens of the astragalus ; from the Punjab.
Collected by Mr. Theobald.
- C. 118. The astragalus ; from the Punjab. This specimen is remarkable for its excessive transverse width.
Collected by Mr. Theobald.
- C. 119. Two specimens of the astragalus, of very small size ; from the Punjab.
Collected by Mr. Theobald.
- C. 120. Two very similar specimens ; from the Punjab.
Collected by Mr. Theobald.
- C. 121-122. The bones of the hind-foot of a very small, but adult form ; from Niki. Associated with No. C. 100.
Collected by Mr. Theobald.
- C. 123. The calcaneum ; from the Siwalik Hills. *No history.*
- C. 124. The calcaneum ; from the Siwalik Hills. *A. S. B. Collection.*
- C. 129. The cuboid ; from the Siwalik Hills. *A. S. B. Collection.*
- C. 131. A first lateral phalangeal ; from the Siwalik Hills.
A. S. B. Collection.
- C. 132. Two specimens of first lateral phalangeals ; from the Punjab.
Collected by Mr. Theobald.
- C. 133. Two specimens of first lateral phalangeals ; from Sind.
Collected by Mr. Fedden.
- C. 134. Two specimens of a first median phalangeal ; from Sind.
Collected by Mr. Fedden.
- C. 135. Three specimens of first median phalangeals of a shorter type ; from Sind.
Collected by Mr. Fedden.
- C. 136. A second median phalangeal ; from Sind.
Collected by Mr. Fedden.
- C. 137. A third median phalangeal ; from Sind.
Collected by Mr. Fedden.

- C. 230-234. Sesamoids, from the Punjab and Sind.
Collected by Messrs. Theobald and Fedden.
- C. 248. The axis vertebra; from the Punjab.
Collected by Mr. Theobald.
- C. 239. An early cervical vertebra; from the Punjab.
Collected by Mr. Theobald.
- C. 240. A cervical vertebra; from the Punjab.
Collected by Mr. Theobald.
- C. 241. A cervical vertebra: from the Punjab.
Collected by Mr. Theobald.

Family CHALICOTHERIIDÆ.

Genus CHALICOTHERIUM, Kaup.

'Oss. Foss. de Darmstadt,' pt. 2, p. 4 (1833).

Chalicotherium sivalense, Falc. and Caut.Syn. *Anoplotherium sivalense*, Falc. and Caut.

'Trans. Geol. Soc.,' ser. 2, vol. v., p. 502 (1840—read, 1837).

- B. 129. Two fragments of the mandible, the first with one and the second with two cheek-teeth; from Sind.
Collected by Mr. Fedden.
- B. 130. A lower molar; from the Punjab.
Collected by Mr. Theobald.
- B. 311. Cast of anterior portion of the cranium. The original, which is the type, is from the Siwalik Hills, and is figured in the 'F. A. S.' pl. lxxx., fig. 1, and in 'Falconer's Palæontological Memoirs,' vol. i., pl. xvii., figs. 3, 4: it is preserved in the Museum of Marischal College, Aberdeen.
A. S. B. Collection.
- B. 312. Cast of the maxillæ. The original is from the Siwalik Hills, and is figured in the 'F. A. S.' *op. cit.* fig. 2, and in the 'Pal. Mem.' *op. cit.* figs. 1, 2; and is in the British Museum.
A. S. B. Collection.
- B. 313. Cast of left ramus of the mandible. The original is from the Siwalik Hills, and is figured in the 'F. A. S.' *op. cit.* fig. 4, and in the 'Pal. Mem.' *op. cit.* figs. 6, 7: it is now in the British Museum.
A. S. B. Collection.

- C. 242. A lower molar ; from Sind. *Collected by Mr. Fedden.*

*The family and generic position of the following specimens
is uncertain :—*

- C. 229. A small carpal bone ; from Jabi, Punjab.
Collected by Mr. Theobald.

- C. 246. The first phalangeal of a perissodactyle, probably allied to
Palæotherium ; from the Punjab.
Collected by Mr. Theobald.

- C. 247. The head of the femur and part of a metacarpal of a large
perissodactyle ; from the nummulitics (Eocene) of the
Punjab. *Collected by Mr. Wynne.*

Suborder *PROBOSCIDEA*.

Family *ELEPHANTIDÆ*.

Genus *ELEPHAS*, Linn.

'Syst. Nat.,' ed. 12, vol. i., p. 48 (1766).

A. Elephas proper (Euelephas, Falc.).

Elephas hysudricus, Falc. and Caut.

'Fauna Antiqua Sivalensis,' pt. 1, p. 41, pl. i. (1846).

- A. 341. Cast of the cranium. The original is from the Siwalik Hills,
and is in the British Museum ; it is figured in the 'F. A. S.'
pls. iv., v. *No history.*
- A. 261. A young cranium, showing mm. 3 and mm. 4 ; from Rúpar.
The third milk-molar has five ridges remaining ; the second
is complete, and has eleven ridges. The greater height
and number of the ridges in mm. 4 readily distinguish
this specimen from *E. planifrons* (No. A. 259).
Collected by Mr. Theobald.
- A. 271. A very similar specimen, with the corresponding teeth ; from
west of Jamu. The last milk-molar is in germ, and has
eleven ridges. *Collected by Mr. Theobald.*
- A. 251. Part of a fourth upper milk-molar, with six ridges remaining ;
from the Siwalik Hills. *A. S. B. Collection (No. S. 60).*
- A. 286. Fragment of a milk-molar ; from the Siwalik Hills.
A. S. B. Collection (No. S. 58).

- A. 292.** Part of the palate, showing m. 2 and m. 3; from the Siwalik Hills. The second molar has about twelve ridges remaining.
A. S. B. Collection.
- A. 292.** Fragment of an upper molar, showing eight or nine well-worn ridges, which are more approximated than usual; from the Siwalik Hills.
A. S. B. Collection (No. S. 73).
- A. 294.** The palatal region of the cranium, showing m. 2 and m. 3 of both sides; from the Markanda valley, Siwalik Hills. The second molars are worn and have eight ridges remaining; the third have fifteen ridges.
Presented by Col. Godwin-Austen, 1866.
- A. 295.** The palate with m. 2 and m. 3 of both sides; from the Punjab. The second molars have eight ridges remaining.
Collected by Mr. Theobald.
- A. 276.** Fragment of a late upper true molar; from the Siwalik Hills.
A. S. B. Collection (No. S. 64).
- A. 272.** Greater part of a third upper true molar, with seventeen ridges; from Rúpar.
Collected by Mr. Theobald.
- A. 280.** Fragment of an upper true molar, comprising ten ridges, denuded of cement; from the Siwalik Hills.
A. S. B. Collection.
- A. 282.** Fragment of a late upper true molar; from Hoshiárpúr.
Collected by Mr. Theobald.
- A. 284.** Fragment of an upper true molar, with nine ridges remaining; from Hoshiárpúr.
Collected by Mr. Theobald.
- A. 285.** A very similar specimen; from the Siwalik Hills.
A. S. B. Collection (No. S. 51).
- A. 287.** Another very similar specimen; from the Punjab.
Collected by Mr. Theobald.
- A. 289.** Fragment of an upper true molar; from the Siwalik Hills.
A. S. B. Collection.
- A. 243.** Part of the right maxilla, with eleven ridges of m. 3; from the Kangra district. The tooth is much worn.
Collected by Mr. Theobald.
- A. 348.** Fragment of the right ramus of the mandible of a young individual, with a fragment of mm. 3 and the perfect mm. 4; from the Siwalik Hills. The fourth milk-molar has ten ridges; the cement has to a great extent weathered away.
By exchange with the Rárki Museum.

- A. 274. Fragment of the left ramus of the mandible, showing portions of $\overline{mm. 4}$ and $\overline{m. 1}$; from the Siwalik Hills.
A. S. B. Collection (No. S. 49).
- A. 281. Fragment of the left ramus of the mandible with part of $\overline{m. 1}$, of which seven ridges remain; from the Siwalik Hills.
A. S. B. Collection (No. S. 51).
- A. 216. The second (?) right lower true molar, with twelve ridges; from Pádri.
Collected by Mr. Theobald.
- A. 275. The left ramus and symphysis of the mandible, showing $\overline{m. 2}$, with eleven remaining ridges; from the Potwár district.
Collected by Mr. Theobald.
- A. 277. Part of the left ramus of the mandible with portions of $\overline{m. 2}$ and $\overline{m. 3}$; from Pinjör. Seven ridges remain in $\overline{m. 2}$; they are placed unusually far apart, but descend deep into the crown as in the present species.
Collected by Mr. Theobald.
- A. 229. Part of a very narrow lower true molar, with eight ridges remaining; from Lehri, Punjab. *Collected by Mr. Theobald.*
- A. 221. Part of the right ramus of the mandible, with the third (?) true molar; from the Siwalik Hills. Twelve ridges are visible, which show the plaited enamel and characteristic loop on the masticating surface of the tooth.
A. S. B. Collection (No. S. 37).
- A. 241. Part of the left ramus and symphysis of the mandible, containing the greater part of $\overline{m. 3}$; from Janori. The tooth has eleven ridges remaining, of which five are worn; the hinder ridges are much bent forward.
Collected by Mr. Theobald.
- A. 262. Part of the left ramus of the mandible, with $\overline{m. 3}$, in which some seventeen ridges can be counted; from the Siwalik Hills. The tooth is very long and narrow, and the ridges unusually numerous.
A. S. B. Collection.
- A. 317. Part of the right ramus of the mandible, with $\overline{m. 3}$, showing sixteen ridges and a talon; from the Siwalik Hills. This specimen apparently belongs to the same individual as the last.
A. S. B. Collection.
- A. 263. The left ramus of the mandible, with the much-worn $\overline{m. 3}$, of which twelve ridges remain; from the Siwalik Hills. The worn enamel disks are narrow, and but little crenulated, with the ridges approximated, all of which characters indicate a very old tooth. *A. S. B. Collection (No. S. 41).*

- A. 267. Part of the left ramus of the mandible, with $\overline{m. 3}$; from the Siwalik Hills. *A. S. B. Collection (No. S. 42).*
- A. 270. Part of the right ramus of the mandible, with $\overline{m. 3}$, showing about fourteen ridges; from the Siwalik Hills. *A. S. B. Collection (No. S. 40).*
- A. 278. The third left lower true molar, with fifteen ridges; from the Punjab. *Collected by Mr. Theobald.*
- A. 288. The greater part of the left ramus of the mandible, containing $\overline{m. 3}$, with fifteen ridges remaining; from Kalka. *Collected by Mr. Theobald.*
- A. 290. Part of the left ramus of the mandible, with $\overline{m. 3}$, of which fourteen ridges remain; from the Siwalik Hills. *A. S. B. Collection (No. S. 39).*
- A. 320. The nearly complete mandible, with $\overline{m. 3}$ on both sides, containing about sixteen ridges; from Pinjor. *Collected by Mr. Theobald.*
- A. 268. Part of the third left lower true molar, with eight ridges remaining; from west of Pinjor. *Collected by Mr. Theobald.*
- A. 269. Another fragment of a corresponding tooth with eleven ridges remaining; from the Kangra district. *Collected by Mr. Theobald.*
- A. 283. Part of the mandible, with a fragment of $\overline{m. 3}$; from the Siwalik Hills. *A. S. B. Collection (No. S. 38).*
- A. 279. Part of a molar; from the Siwalik Hills. *A. S. B. Collection (No. S. 48).*
- A. 291. Fragment of late left lower true molar; from the Punjab. *Collected by Mr. Theobald.*

B. Loxodon, Falc.

Elephas planifrons, Falc. and Caut.

'Fauna Antiqua Sivalensis,' pt. i, pl. ii. (1846).

- A. 415. Cast of the cranium. The original is from the Siwalik Hills, and is in the British Museum; it is figured in pls. x., xi., of the 'F. A. S.' *No history.*
- A. 157. Part of the right maxilla of a very young animal provisionally referred to this species, showing $\overline{mm. 3}$ and the alveolus of $\overline{mm. 2}$, as well as that of the tusk; from the Siwalik

Hills. The tusk is relatively large, and mm. 3 has six ridges. The specimen was referred by Falconer to *E. insignis*; the ridges seem, however, to be too tall and thin, and the enamel too straight and thick; the tooth apparently exactly agrees with mm. 3 in No. A. 259. The ridges in mm. 3 of *S. insignis* ('F. A. S.' pl. xix., fig. 1) are lower and are less in number. *Vide* 'Pal. Ind.' ser. 10, vol. i., p. 260. *A. S. B. Collection (No. S. 7).*

- A. 259. Young cranium, with mm. 3 and mm. 4; from Pinjor. The former is worn and has five ridges remaining; the latter is but little worn and has eight ridges and a talon; the ridges do not extend below the neck of the tooth.

Collected by Mr. Theobald.

- A. 249. Cast of the palatal region of an adolescent animal, showing pm. 3, mm. 4, and m. 1. The original is from the Siwalik Hills, and is in the British Museum; it is figured in pl. vi., figs. 4-6 of the 'F. A. S.'

Purchased.

- A. 215. Part of a considerably worn first right upper true molar, with seven ridges remaining; from the Punjab. The worn ridges show looped enamel in bands, and the valleys are obliterated by cement.

Collected by Mr. Theobald.

- A. 255. Greater part of a little-worn second (P) upper true molar, with eight ridges remaining; from Pinjor.

Collected by Mr. Theobald.

- A. 238. The second right upper true molar, with nine ridges; from the Potwár district.

Collected by Mr. Theobald.

- A. 245. The palate, with m. 2 and the germ of m. 3; from Lehri. The second molar has eight ridges.

Collected by Mr. Theobald.

- A. 223. Part of the left maxilla, with portions of m. 2 and m. 3; from the Siwalik Hills. The second molar is well worn, but seven ridges can still be distinguished; the enamel disks are lozenge-shaped.

A. S. B. Collection (No. S. 19).

- A. 239. The palate, with m. 2 and m. 3 (both imperfect); from the Siwalik Hills. Seven ridges remain in the second, and ten in the third tooth.

By exchange with the Rürki Museum.

- A. 233. The nearly complete third right upper true molar, with nine ridges remaining; from the Markanda valley, Siwalik Hills.

Presented by Col. Godwin-Austen, 1866.

- A. 254. The nearly perfect third right upper true molar, with about eleven ridges; from Pinjor.

Collected by Mr. Theobald.

- A. 256.** Greater part of a little-worn third upper true molar, with eleven ridges; from Kataneh. *Collected by Mr. Theobald.*
- A. 264.** The palate showing m. 3 on both sides, each with eleven ridges; from the Kangra district.
Collected by Mr. Theobald.
- A. 273.** Fragment of a third upper true molar, with eight ridges remaining; from Jhilna, Punjab. *Collected by Mr. Theobald.*
- A. 230.** Part of the right maxilla of a small (♀ female) individual, with the much-worn m. 3; from the Siwalik Hills.
A. S. B. Collection (No. S. 230).
- A. 250.** Cast of part of the left ramus of the mandible, showing pm. 3, mm. 3, and mm. 4. The original is from the Siwalik Hills, and is in the British Museum; it is figured in the 'F. A. S.' pl. xii., fig. 8. The specimen represented in fig. 10 of the same plate shows pm. 4. *Purchased.*
- A. 349.** Part of the right ramus of the mandible, with portion of mm. 3 and complete mm. 4; from the Siwalik Hills. The last milk-molar is in beautiful preservation, and has nine ridges and a talon. *By exchange with the Rürki Museum.*
- A. 253.** Part of the left ramus of the mandible, showing portions of mm. 4 and m. 1; from the Siwalik Hills. There seem to have been eight ridges in mm. 4.
A. S. B. Collection (No. S. 43).
- A. 218.** Part of the right ramus of the mandible, with the greater part of mm. 4 and m. 1; from the Hoshiarpur district. Six ridges remain in mm. 4. *Collected by Mr. Theobald.*
- A. 226.** Part of the left ramus of the mandible, with m. 1 and part of m. 2; from the Siwalik Hills. The first molar has seven ridges.
A. S. B. Collection (No. S. 21).
- A. 227.** Part of the left ramus and symphysis of the mandible, with part of m. 1 and the germ of m. 2; from the Siwalik Hills. The second molar has nine ridges.
A. S. B. Collection (No. S. 27).
- A. 225.** Part of the left ramus of the mandible, with the greater part of m. 1 (six ridges remaining); from the Siwalik Hills.
A. S. B. Collection.
- A. 231.** The little-worn second left lower true molar, with eight ridges; from Lehri. The tooth is much narrower in front than behind.
Collected by Mr. Theobald.

- A. 242. The left ramus of the mandible, with the first or second true molar; from the Siwalik Hills. The tooth has eight ridges.
A. S. B. Collection (No. S. 50).
- A. 222. The right ramus and symphysis of the mandible, with $\overline{m. 2}$, and $\overline{m. 3}$; from the Siwalik Hills. Five ridges remain of $\overline{m. 2}$, and six are visible in $\overline{m. 3}$.
A. S. B. Collection (No. S. 22).
- A. 228. Part of a second lower true molar, with eight ridges remaining; from the Khárián Hills near Jhelam, Punjab.
Collected by Mr. Theobald.
- A. 248. The mandible, with $\overline{m. 2}$ and $\overline{m. 3}$ of both sides; from the Siwalik Hills. The second molar has five remaining ridges, and seven of $\overline{m. 3}$ are visible.
A. S. B. Collection (No. S. 23).
- A. 219. Cast of the left ramus of the mandible, showing $\overline{m. 3}$ with eleven ridges. The original is from the Siwalik Hills, and is believed to be in the British Museum.
A. S. B. Collection.
- A. 220. A similar specimen of the right ramus; from Pádri.
Collected by Mr. Theobald.
- A. 224. Part of the left ramus of the mandible, with $\overline{m. 3}$, which contains eleven ridges and a talon; from Nanowal.
Collected by Mr. Theobald.
- A. 246. Part of the left ramus of the mandible, with $\overline{m. 3}$, containing ten or eleven ridges; from the Siwalik Hills.
A. S. B. Collection (No. S. 24).
- A. 247. A ramus of the mandible with $\overline{m. 3}$; from the Potwár district.
Collected by Mr. Theobald.
- A. 265. The left ramus of the mandible with $\overline{m. 3}$, containing ten or eleven ridges; from Pinjor.
Collected by Mr. Theobald.
- A. 266. The right ramus of the mandible with part of $\overline{m. 3}$, of which eight ridges remain; from west of Pinjor.
Collected by Mr. Theobald.
- A. 296. The left ramus and symphysis of the mandible, showing $\overline{m. 3}$, with about ten ridges; from Khetpuráli.
Collected by Mr. Theobald.
- A. 232. A little-worn imperfect third lower true molar, with nine ridges remaining; from the Potwár district.
Collected by Mr. Theobald.

- A. 234. Fragment of the right ramus of the mandible, with the last seven ridges of $\overline{m. 3}$; from Nanowal.
Collected by Mr. Theobald.
- A. 235. A very similar specimen to the last ; from the Markanda valley. The tooth is more perfect.
Presented by Col. Godwin-Austen, 1866.
- A. 236. Another very similar specimen ; from Asnot.
Collected by Mr. Theobald.
- A. 237. A fourth very similar specimen, but with $\overline{m. 3}$, nearly complete, which appears to have had thirteen ridges, from the Markanda valley. *Presented by Col. Godwin-Austen, 1866.*
- A. 240. Fragment of the right ramus of the mandible, with nine ridges of $\overline{m. 3}$; from the Hoshiárpúr district.
Collected by Mr. Theobald.
- A. 244. Part of the left ramus of the mandible, with a fragment of $\overline{m. 3}$; from the Punjab. *Collected by Mr. Theobald.*
- A. 247. Fragment of a late lower true molar, comprising five ridges and a talon ; from Pádri. *Collected by Mr. Theobald.*
- A. 401. Several imperfect teeth and jaws ; from the Punjab.
Collected by Mr. Theobald.

C. Stegodon, Falc.

Elephas insignis, Falc. and Caut.

"Fauna Antiqua Sivalensis," pt. 1, p. 37 (1846).

Syn. *Mastodon elephantoides*, Clift (*in parte*).

(?) *Stegodon orientalis*, Owen.¹

As it appears impossible to distinguish the cheek-teeth of this species from those of the next, they are all ranged under this head.

- A. 184. An imperfect cranium, with $\overline{m. 1}$ and $\overline{m. 2}$; from the Siwalik Hills. The second molar has seven ridges, instead of the usual eight. *A. S. B. Collection (No. S. 4).*
- A. 186. An imperfect cranium, with $\overline{m. 2}$; from the Siwalik Hills.
A. S. B. Collection (No. S. 3).
- A. 345. The cranium ; from the Siwalik Hills. This specimen makes an approach to *E. ganesa* ; the germ of $\overline{m. 3}$ is visible and shows eleven ridges. *A. S. B. Collection (No. S. 2).*

¹ In the 'Pal. Ind.' ser. 10, vol. ii., p. 289, and 'Rec. Geol. Surv. Ind.' vol. xvi., pp. 71, 92, this name is inadvertently given as a synonym of *E. bombifrons*.

- A. 346. An imperfect cranium, of typical form; from the Kangra district.
Collected by Mr. Theobald.
- A. 257. An adolescent cranium, with m.m. 4 and m. 1; from the Kangra district. Each tooth has seven ridges.
Collected by Mr. Theobald.
- A. 198. An adolescent cranium, with part of m.m. 4 and the complete m. 1 (having eight ridges); from the Siwalik Hills.
A. S. B. Collection.
- A. 213. The fourth left upper milk-molar; from Asnot, Punjab.
Fig. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xlv., fig. 4.
Collected by Mr. Theobald.
- A. 196. The right maxilla, with m. 1 and m. 2; from the Siwalik Hills.
The first molar has seven ridges.
A. S. B. Collection (No. S. 5).
- A. 197. Part of the right maxilla, with m.m. 4 and m. 1, both imperfect; from Pinjor.
Collected by Mr. Theobald.
- A. 188. Fragment of the left maxilla, with one 'true molar' [with nine ridges; from the Siwalik Hills.
A. S. B. Collection (No. S. 31).
- A. 178. Part of the left maxilla, with part of m. 1 and the entire m. 2; from the Hoshiarpur district. The second molar has eight ridges.
Collected by Mr. Theobald.
- A. 179. A very similar specimen to the last, but of the right side and with only a part of m. 2; from Janori.
Collected by Mr. Theobald.
- A. 166. The third left upper true molar, with eleven ridges and a hind talon; from Pinjor.
Collected by Mr. Theobald.
- A. 206. The palate with m. 3, of both sides; from Asnot. The teeth have eleven ridges.
Collected by Mr. Theobald.
- A. 315. The palate with m. 3, of both sides; from Lehri, Punjab. The left tooth has eleven ridges; the right is broken.
Collected by Mr. Theobald.
- A. 156. Fragment of the third right upper true molar, comprising five unworn ridges; from the Siwalik Hills.
A. S. B. Collection (No. S. 11).
- A. 200. Three unworn ridges of a third upper true molar; from Lehri.
Collected by Mr. Wynne.

- A. 201. Fragment of a third upper true molar, comprising six ridges ;
from Asnot. *Collected by Mr. Theobald.*
- A. 158. The anterior part of the left ramus of the mandible of a very
Fig. young individual, containing the third milk-molar ; from
the Siwalik Hills. The tooth is figured in the 'Pal. Ind.'
ser. 10, vol. i., pl. xlv., fig. 2.
A. S. B. Collection (No. S. 8).
- A. 159. Fragment of the left ramus of the mandible of a rather
older individual, with the base of $\overline{m.m. 3}$ and germ of $\overline{m.m. 4}$;
from Jhilna. The fourth milk-molar has seven ridges,
the talon being broken off. *Collected by Mr. Theobald.*
- A. 160. Part of the right ramus of the mandible, of a young indivi-
Fig. dual, with part of $\overline{m.m. 3}$ and the entire $\overline{m.m. 4}$; from
Nanowal. The fourth milk-molar¹ is figured in the 'Pal.
Ind.' ser. 10, vol. i., pl. xlv., fig. 4 : it has seven ridges and
talons. *Collected by Mr. Theobald.*
- A. 189. Part of the left ramus of the mandible, with $\overline{m. 1}$ and $\overline{m. 2}$;
from the Kangra district. The first tooth is broken ; the
second has eight ridges visible.
Collected by Mr. Theobald.
- A. 191. A very similar specimen to No. A. 189, but of the opposite
side, and with both molars broken ; from Asnot.
Collected by Mr. Theobald.
- A. 193. Part of the right ramus of the mandible, containing $\overline{m. 1}$
and $\overline{m. 2}$; from Jamu. The first tooth is broken ; the
second has nine ridges. *Collected by Mr. Theobald.*
- A. 194. A very similar specimen to the last, with both teeth damag-
ed ; from Pádri. *Collected by Mr. Theobald.*
- A. 195. Another very similar specimen ; from the Potwár district.
Collected by Mr. Theobald.
- A. 199. The complete second left lower true molar, with nine ridges ;
from the Kangra district. *Collected by Mr. Theobald.*
- A. 167. Part of the right ramus of the mandible, showing a part of the
second (?) true molar ; probably from the Siwalik Hills.
A. S. B. Collection (No. S. 68).

¹ In the description of the plate, for *true* molar read *milk*-molar.

- A. 163.** The right ramus and symphysis of the mandible, with $\overline{m.2}$ and $\overline{m.3}$; from Niki, Punjab. The second molar is imperfect; the third has nine ridges visible.
Collected by Mr. Theobald.
- A. 164.** Part of the right ramus of the mandible, showing part of $\overline{m.2}$ and the germ of $\overline{m.3}$, of which seven ridges are visible; from the Siwalik Hills.
A. S. B. Collection (No. S. 65).
- A. 165.** Part of the right ramus of the mandible with $\overline{m.3}$, which has eleven ridges and a talon; from the Markanda valley, Siwalik Hills. *Presented by Col. Godwin-Austen, 1866.*
- A. 185.** Part of the left ramus of the mandible with $\overline{m.3}$, which has ten ridges and a talon; from Niki.
Collected by Mr. Theobald.
- A. 187.** Part of the left ramus of the mandible, containing the greater part of $\overline{m.3}$, which is of very large size; from the Punjab.
Collected by Mr. Theobald.
- A. 309.** Part of the left ramus of the mandible, with $\overline{m.3}$, of which ten ridges remain; from Pinjor.
Collected by Mr. Theobald.
- A. 310.** A very similar fragment of the right ramus; from the Potwár district.
Collected by Mr. Theobald.
- A. 311.** Part of the left ramus of the mandible, with portions of $\overline{m.2}$ and $\overline{m.3}$; from the Punjab. *Collected by Mr. Theobald.*
- A. 314.** Part of the left ramus of the mandible, with ten ridges of $\overline{m.3}$; from Asnot. The tooth is of enormous size, for which reason it may have belonged to *E. ganesa*.
Collected by Mr. Theobald.
- A. 313.** Part of the left ramus of the mandible, showing nine ridges of $\overline{m.3}$; from Janori.
Collected by Mr. Theobald.
- A. 316.** The left ramus and symphysis of the mandible with $\overline{m.3}$; from the Potwár district. The tooth agrees in size with No. A. 314.
Collected by Mr. Theobald.
- A. 190.** Part of the third left lower true molar, with eight ridges remaining; from Pinjor.
Collected by Mr. Theobald.
- A. 192.** Fragment of the third left lower true molar with seven ridges remaining; from the Punjab. *Collected by Mr. Theobald.*

- A. 203. Fragment of the third left lower true molar of very large size; from the Potwár district. *Collected by Mr. Theobald.*
- A. 204. A very similar fragment of the corresponding tooth of the opposite side; from the same locality.
Collected by Mr. Theobald.
- A. 260. Part of the right ramus of a mandible, with part of $\overline{m. 3}$ referred by Falconer to a dwarf race of this species; from the Siwalik Hills. *A. S. B. Collection (No. S. 67).*

Elephas ganesa, Falc. and Caut.

- "Fauna Antiqua Sivalensis," pt. 1., p. 45 (1846).
- A. 343. The cranium, wanting the tusks, and showing the unworn third true molars; from the Hoshiárpúr district. This specimen is noticed in the Records, vol. ix., pp. 42-8.
Collected by Mr. Theobald, 1874.
- A. 344. Cast of the cranium and tusks. The original is from the Siwalik Hills, and is in the British Museum; it is figured in the 'F. A. S.' pls. xxi-xxiii. Considerable restoration has been effected in this specimen. *Probably purchased.*
- A. 297. Part of a tusk; from Lehri. The reference of this and the following specimens is somewhat provisional.
Collected by Mr. Theobald.
- A. 298. Fragment of a tusk; from the Siwalik Hills.
A. S. B. Collection.
- A. 299. Greater part of a tusk, in six pieces; from the Punjab.
Collected by Mr. Theobald.
- A. 304. Two fragments from the middle of a tusk; from the Punjab.
Collected by Mr. Theobald.
- A. 305. Two fragments of the base of a tusk, cut into sections; from the Siwalik Hills. *A. S. B. Collection.*
- A. 306. Extremity of a tusk, in three pieces; from the Punjab.
Collected by Mr. Theobald.
- A. 307. The worn extremity of a tusk; from the Punjab.
Collected by Mr. Theobald.

Elephas bombifrons, Falc. and Caut.

- "Fauna Antiqua Sivalensis," pt. i., p. 46 (1846).
- A. 339. Imperfect cranium, wanting the left half; from the Kangra district. The last true molars are in use, and each shows

eight ridges. Noticed in the 'Pal. Ind.' ser. 10, vol. i., p. 267. *Collected by Mr. Theobald.*

- A. 414. Cast of the cranium. The original is from the Siwalik Hills, and is in the British Museum; it is figured in the 'F. A. S.' pls. xxvii-viii. *No history.*
- A. 214. Part of the left maxilla, containing part of m.m. 4 and the *Fig.* complete m. 1; from the Potwár district, Punjab. The true molar is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xlvii., fig. 1; it has six ridges, the hinder ones being curved. *Collected by Mr. Theobald.*
- A. 142. Fragment of a first right upper true molar, provisionally referred to this species; probably from the Siwalik Hills. There are five ridges remaining, the centre of each of which is the highest point; there are seven or eight cusps on each ridge, and a large quantity of cement in the valleys. The specimen was referred by Falconer to *E. clifti*. *A. S. B. Collection (No. A. 14).*
- A. 180. Part of a right maxilla with the worn m.m. 4 and the complete m. 1, which may perhaps belong to this species; from Nanowal. There are six ridges in m. 1 which appear somewhat higher than in typical specimens. *Collected by Mr. Theobald.*
- A. 312. The palate, showing m. 2 on either side; from Nanowal. Each tooth has seven ridges. *Collected by Mr. Theobald.*
- A. 205. The palate, showing the worn m. 2, and the first ridges of m. 3; from the Siwalik Hills. The second molar has apparently seven ridges, which are low and curved. *A. S. B. Collection.*
- A. 174. The second right upper true molar, probably belonging to this species; from the Punjab. There are six remaining ridges, one of which is curved. *Collected by Mr. Theobald.*
- A. 176. A second left upper true molar, provisionally referred to this species; from the Siwalik Hills. There are seven ridges; the specimen is referred by Falconer to *E. insignis*. *A. S. B. Collection (No. S. 6).*
- A. 162. A third upper true molar; from the Punjab. There are eight ridges in an unworn condition. *Collected by Mr. Theobald.*

- A. 202. The palate with $\overline{m. 2}$ and $\overline{m. 3}$; from the Hoshiárpúr district. The second molar has seven, and the third nine ridges.

Collected by Mr. Theobald.

- A. 181. Fragment of a third upper true molar, with five ridges remaining; from Asnot, Punjab.

Collected by Mr. Theobald.

- A. 183. Part of the third left upper true molar, with seven ridges and a talon remaining; from Niki, Punjab.

Collected by Mr. Theobald.

- A. 211. Fragment of a well-worn upper true molar, with six ridges remaining; from Nanowal.

Collected by Mr. Theobald.

- A. 208. The third left lower milk-molar; from Asnot. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xlvi., fig. 3.

Collected by Mr. Theobald.

- A. 334. The fourth right lower milk-molar; from the Deraját. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xlv., fig. 3.

There are five ridges and a talon, in which respect the tooth agrees with the one figured in the 'F. A. S.' pl. xxix. B., fig. 5.

By exchange with the Lahore Museum.

- A. 169. Part of the left ramus of a mandible, provisionally referred to this species, with $\overline{m.m. 4}$; from the Punjab. The tooth has six ridges, and agrees with the one figured in the 'F. A. S.' pl. xxix. A., fig. 1.

Collected by Mr. Theobald.

- A. 173. Part of the left ramus of a mandible, probably belonging to this species, with $\overline{m.m. 4}$ and $\overline{m. 1}$; from the Punjab. The former tooth is worn and apparently had five or six ridges; it is somewhat smaller than $\overline{m.m. 4}$ in No. A. 169.

Collected by Mr. Theobald.

- A. 210. An imperfect first right lower true molar, not improbably belonging to this species; from Pádri. It has apparently only six ridges, but is otherwise like *E. insignis*.

Collected by Mr. Theobald.

- A. 168. The nearly complete left ramus of the mandible, showing parts of the three true molars; from the Potwár district, Punjab. The first molar is nearly worn away; $\overline{m. 2}$ has seven ridges and fore-and-aft talons, and agrees with $\overline{m. 2}$ in No. A 312: the ridges are low.

Collected by Mr. Theobald.

- A. 161. Part of the left ramus of the mandible, with m. 3, of which there are eight ridges and a talon remaining; from the Potwár district. *Collected by Mr. Theobald.*
- A. 207. The third left lower true molar, with six ridges and a talon remaining; from Niki. *Collected by Mr. Theobald.*
- A. 182. Part of the third left lower true molar, with seven ridges remaining; from the Potwár district. *Collected by Mr. Theobald.*
- A. 175. Part of a left lower true molar with portions of seven ridges remaining, perhaps belonging to this species; from the Potwár district. *Collected by Mr. Theobald.*

Elephas clifti, Falc. and Caut.

"Fauna Antiqua Sivalensis," pt. i., p. 47 (1846).

Syn. ? *Stegodon sinensis*, Owen. *Mastodon elephantoides*, Clift (*in parte*).

- A. 212. Cast of the third right upper milk-molar of a stegodont elephant, provisionally referred to the present species. The original was obtained from beds of probably pliocene age near Shanghai, China, and is preserved in the British Museum. It is the type of *Stegodon sinensis*, and is figured under that name by Owen in the Quart. Journ. Geol. Soc., vol. xxvi., pl. xxvii.; it is also figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xlv., fig. 2. *Purchased.*
- A. 209. The fourth left upper milk-molar; from Padri, Punjab. *Fig.* Figured in the 'Pal. Ind.' *op. cit.* pl. xlv., fig. 1. *Collected by Mr. Theobald.*
- A. 137. Cast of the first left upper true molar. The original, which is the type of the species, was obtained from Burma, and is figured by Clift in the 'Trans. Geol. Soc.' ser. 2, vol. ii., pl. xxxix., fig. 6, under the name of *Mastodon elephantoides*; and is also figured in the 'F.A. S.' pl. xxx., fig. 2. The ridges are less closely approximated than in the last specimen; but it is highly probable that this difference is not of more than individual value. *A. S. B. Collection.*
- A. 139. The first right upper true molar, agreeing exactly with the last specimen; from Niadarpúr. *Collected by Mr. Theobald.*
- A. 177. Part of the right maxilla, with part of m. 1 and the complete m. 2; from the Kangra district. The perfect tooth is well

worn and has six broad ridges, and a small front talon : these ridges are worn higher on the outer than on the inner side, which distinguishes this species from all other species of *Elephas*. *Collected by Mr. Theobald.*

- A. 140.** The third (?) right upper true molar; from Burma. Four ridges remain. *No history.*
- A. 145.** The third upper true molar; from Burma. There is no trace of a median longitudinal cleft; the two first ridges are worn into a common dentine surface. *No history.*
- A. 146.** A similar tooth to the last, but less worn and with a smaller hind talon; from Burma. *No history.*
- A. 151.** Part of the third left upper true molar, with five ridges exposed; probably from the Siwalik Hills. The cement is abundant, and the enamel crenulated.
A. S. B. Collection (No. A. 12).
- A. 153.** Hinder part of a late right upper true molar; perhaps from Burma. *A. S. B. Collection (No. A. 9).*
- A. 141.** Fragment of a molar, with two ridges remaining; from Burma. *No history.*
- A. 143.** Fragment of a late upper true molar, with three ridges remaining; perhaps from Burma.
A. S. B. Collection (No. A. 10).
- A. 172.** A third left upper true molar, provisionally referred to this species; from the Punjab. There are seven ridges and a talon, the outer side of each ridge being higher than the inner. *Collected by Mr. Theobald.*
- A. 149.** Greater part of the right ramus of the mandible showing the complete third true molar; from the Potwâr district, Punjab. This specimen is provisionally referred to the present species. It has seven ridges and a talon; there is an indistinct median longitudinal cleft in each ridge, and the enamel is less crenulated than in some specimens; there are four or five mammillæ on each ridge. The tooth resembles the one figured in 'F. A. S.' pl. xxx., fig. 5, but has one ridge less. *Collected by Mr. Theobald.*
- A. 150.** Part of the left ramus of the mandible, with the greater part of m. 3, in a much worn condition; probably from Burma. There is no median cleft, and cement is abundant. *A. S. B. Collection (No. A. 16).*

- A. 152. Fragment of the right ramus of the mandible, containing the hinder part of m. 3; from Madanpúr. Five ridges and a talon remain. *Collected by Mr. Theobald.*
- A. 147. A much worn fragment of the third left lower true molar; probably from Burma. Five ridges and a talon remain. *A. S. B. Collection.*
- A. 155. Part of a third lower true molar, with apparently seven ridges; from Burma. *No history.*
- A. 170. Part of the right ramus of the mandible, with the third true molar; from the Siwalik Hills. There are seven ridges remaining, the enamel is crenulated, and there is a cingulum on the outer side. *A. S. B. Collection (No. S. 642).*
- A. 171. Fragment of the left ramus of the mandible, containing a tooth very similar to the last; from Nanowal. *Collected by Mr. Theobald.*
- A. 154. A third lower true molar, with six broken ridges, probably belonging either to this species or *Mastodon latidens*; from Burma. The ridges are curved and have a median cleft; there is but little cement. *No history.*
- A. 402. Molars and jaws not specifically determined; from the Punjab. *Collected by Mr. Theobald.*

Genus **MASTODON**¹, Cuvier.

'Ann. d. Muséum' vol. viii., p. 270 (1806).

A. Tetralophodont group.

Mastodon sivalensis, Falc. and Caut.

"Fauna Antiqua Sivalensis," pt. i., p. 49 (1846).

- A. 103. Cast of the nearly complete cranium. The original is from the Siwalik Hills, and is now in the British Museum; it is figured in pls. xxxii. and xxxiii. of the 'F. A. S.' *Purchased.*

- A. 129. Part of left maxilla showing the complete fourth milk-molar, *Fig.* the alveolus of m.m. 3, and the first three ridges of m. 1; from the Siwalik Hills. The fourth milk-molar is figured

¹ It may be well to observe that the specific determinations of the specimens represented in the following figures of ser. 10, vol. i. of the 'Palæontologia Indica' have been changed: *vis.*

Pl. xxxii. figs. 2 and 3, pl. xxxiii. fig. 2 = *Mastodon* sp.

Pl. xxxii. fig. 4 = *Mastodon pandionis*.

Pl. xli. fig. 4 = *Mastodon sivalensis*.

in the 'Pal. Ind.' ser. 10, vol. i., pl. xli., fig. 2. The enamel is vertically grooved.

A. S. B. Collection (No. S. 1).

- A. 109. Part of the palate, with the fourth milk-molar and first true molar; from the Siwalik Hills. The teeth agree exactly with those of the last specimen.

A. S. B. Collection (No. S. 13).

- A. 122. Fragment of 4th (?) right upper milk-molar; from Asnot, Punjab.

Collected by Mr. Theobald.

- A. 124. Part of fourth (?) left upper milk-molar; from the Potwár district, Punjab.

Collected by Mr. Theobald.

- A. 123. Hinder part of first right upper true molar, with three ridges remaining; from Asnot.

Collected by Mr. Theobald.

- A. 102. Cast of palate and part of cranium. The original is from the Siwalik Hills, and is figured in the 'F. A. S.' pl. xxxiv., fig. 1; it shows the second and third true molars, the latter being unworn. The alternate arrangement of the columns of the teeth is not so strongly marked as in some other specimens.

A. S. B. Collection.

- A. 55. The second right upper true molar in a half-worn condition; *Fig.* from Asnot. This specimen is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xli., fig. 4, under the name of *M. perimensis*¹ but is referred to the present species in vol. iii., p. 151. It agrees very closely in general characters with the last milk-molar of the opposite side represented in figure 2 of the same plate; and in its posterior half exhibits very clearly the alternate arrangement of the columns. The worn dentine disks are irregular, and have not the trefoil shape of *M. perimensis* ('Pal. Ind.' ser. 10, vol. i., pl. xlii.).

Collected by Mr. Theobald.

- A. 353. The second left upper true molar; from Lehri, Punjab.

Collected by Mr. Theobald, 1880.

- A. 114. Cast of the third left upper true molar. The original is from the Siwalik Hills, and is figured in pl. xxxvi., fig. 6, of the 'F. A. S.' It is a typical specimen, with six ridges and a hind talon, and exhibits very markedly the alternate arrangement of the columns.

A. S. B. Collection.

¹ This specimen was referred to *M. perimensis* from its resemblance to a tooth so named by Falconer, but of which the reference appears doubtful. The second upper true molar of that species is represented in the 'Pal. Ind.' ser. 10, vol. iii., pl. xvi., fig. 2.

- A. 106.** The palate, containing the hinder part of the second and the complete third true molar of either side; from Lehri, Punjab. *Fig.* The third left molar is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xlv., fig. 1. It agrees very closely with the corresponding tooth of No. A. 102, the alternate arrangement of the columns being very much less marked than in No. A. 114. *Collected by Mr. Theobald.*
- A. 135.** The first four ridges of the third right upper true molar; from Parmandel. The tooth is unworn, and the columns are alternately arranged. *Collected by Mr. Theobald.*
- A. 116.** Greater part of third left upper true molar, showing an anterior talon and five ridges; from the Potwár district. The alternate arrangement of the columns is well marked. *Collected by Mr. Theobald.*
- A. 118.** Hinder part of third (?) left upper true molar, with portions of three ridges and a talon remaining; from Asnot. *Collected by Mr. Theobald.*
- A. 119.** Fragment of a molar probably belonging to this species; probably from the Siwalik Hills. *A. S. B. Collection (No. S. 69).*
- A. 258.** Part of a molar cut and polished; from the Punjab. This specimen is noticed in the 'Records' vol. xv., pp. 103-4; it exhibits great crenulation of the enamel, which appears to occur only at the base of the crown in the true molars of this species. *Collected by Mr. Theobald.*
- A. 126.** Fourth right lower milk-molar; from the Kangra district. *Fig.* Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xlv., fig. 2. There are four ridges, and the enamel is vertically grooved. *Collected by Mr. Theobald.*
- A. 105.** Fragment of right ramus of mandible, with the second true molar; from the Punjab. The tooth has five ridges and a talon. *Collected by Mr. Theobald.*
- A. 131.** The second (?) left lower true molar with four or five ridges and a talon; from Rúpar. *Collected by Mr. Theobald.*
- A. 107.** Part of a left lower molar, with three ridges remaining; from the Hoshiárpúr district. *Collected by Mr. Theobald.*
- A. 108.** Fragment of a molar, with three ridges and a talon remaining; from Asnot. *Collected by Mr. Theobald.*
- A. 132.** Fragment of a lower molar, with three ridges remaining; from Asnot. *Collected by Mr. Theobald.*

- A. 120.** Cast of a fragment of right ramus of the mandible containing the third true molar. The original is from the Siwalik Hills, and is figured (reversed) in the 'F. A. S.' pl. xxxvii., fig. 8. It is in an early condition of wear, and shows six ridges and a talon; the alternate arrangement of the column is very well marked. *A. S. B. Collection.*
- A. 104.** Symphysial portion of the mandible, containing the third true molar of either side; from near Bhimbar (N. W. of Jamu). The tooth of the right side is figured¹ in the 'Pal. Ind.' ser. 10, vol. i., pl. xlv., fig. 3; it is very like a specimen figured in the 'F. A. S.' pl. xx-xvii., fig. 7, but the ridges are one less in number, and the alternate arrangement of the columns is not so strongly marked; the enamel is quite smooth. The left side of the specimen is crushed in, and the tooth bent inwards.
Collected by Mr. Theobald.
- A. 110.** Part of right ramus of the mandible, with the third true molar; from Niki, Punjab. The tooth is much worn, and contains five ridges and a talon. *Collected by Mr. Theobald.*
- A. 111-112.** Two specimens similar to the last; from the Punjab.
Collected by Mr. Theobald.
- A. 113.** Fragment of left ramus of the mandible, containing the third true molar; from the Potwár district, Punjab. The tooth agrees exactly with that of No. A. 104.
Collected by Mr. Theobald.
- A. 115.** Fragment of the third (?) left lower true molar, with four well-worn ridges remaining; from Asnot.
Collected by Mr. Theobald.
- A. 117.** Hinder part of a third (?) lower true molar; from Asnot. Remarkable for the great number of accessory columns.
Collected by Mr. Theobald.
- A. 121.** Fragment of third left lower true molar; from the Potwár district.
Collected by Mr. Theobald.
- A. 130.** The third (?) left lower true molar; with five ridges, from Lehri.
Collected by Mr. Theobald.
- A. 133.** Part of a third (?) lower true molar; with four ridges remaining; from Niki.
Collected by Mr. Theobald.
- A. 134.** A similar specimen; from Niki. *Collected by Mr. Theobald.*

¹ In the description of the plate the word *palate* is given in place of *mandible*.

Undetermined.

- A. 127. Part of a lower molar, with three ridges, which may or not be imperfect in front; from Lehri. If complete this tooth belongs to a *Trilophodon*; if not it may belong to *M. sivalensis*.
Collected by Mr. Theobald.

- A. 57. The greater part of an intermediate upper true molar, with three ridges and a talon remaining; from Perim Island. This tooth is referred by Falconer to *M. perimensis*, and is so described in the 'Pal. Ind.' ser. 10, vol. i, it presents, however, a considerable resemblance to *M. sivalensis*, and requires careful comparison: it is figured in the 'Pal. Mem.' vol. i., pl. ix., fig. 4. A. S. B. Collection (No. P. 4).

Mastodon latidens, Clift.

'Trans. Geol. Soc.,' ser. 2, vol. ii., p. 371 (1828).

- A. 125. A small tooth regarded as the second left upper milk-molar; from the Potwár district of the Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xxxvii., fig. 5.
Collected by Mr. Theobald.

- A. 333. A very similar tooth, with the second ridge broken; from Sind.
Collected by Mr. Blanford.

- A. 65. The third right upper milk-molar; from Asnot, Punjab. Figured in the 'Pal. Ind.' *op. cit.* pl. xxxvii., fig. 4.
Collected by Mr. Theobald.

- A. 64. The fourth left upper milk-molar and premolar; from Asnot. Fig. The premolar was found in its alveolus below mm. 4. Figured in the 'Pal. Ind.' *op. cit.* pl. xxxvii., figs. 6 and 8.
Collected by Mr. Theobald.

- A. 82. The palate, showing the second and the first ridge of the third true molar, on both sides; from Burma. The second molar of the right side is figured in the 'Pal. Ind.' *op. cit.* pl. xxxviii., fig. 2.
A. S. B. Collection.

- A. 87. A fine specimen of the palate, containing the second true molar of both sides, and the left third molar; from the Punjab. The last molar is just coming into use; it has five ridges, but has lost the hind-talon; the second molars are somewhat damaged anteriorly.
Collected by Mr. Theobald.

- A. 138. Second right upper true molar; from the Punjab. This Fig. tooth agrees with No. A. 82, except in the development of

the hind-talon into a fifth ridge. Figured in the 'Pal. Ind.' *op. cit.* pl. xxxviii., fig. 1. *Collected by Mr. Theobald.*

- A. 88. Much-worn fragment of an intermediate (? 2nd) molar, showing part of three ridges; from Gadari, Punjab.

Collected by Mr. Theobald.

- A. 89. Fragment of an upper molar with three ridges and a hind-talon remaining; from Gadari. *Collected by Mr. Theobald.*

- A. 90. The later ridges of the second left upper true molar belonging to the same individual as the third molar No. A. 86.

Collected by Mr. Wynne.

- A. 93. Cast of part of right maxilla with portions of two molars. The original, which is figured in the F. A. S.' pl. xxxi., fig. 1, is from the Siwalik Hills, and is in the British Museum.

A. S. B. Collection.

- A. 86. Fragment of the right maxilla containing part of the second and the complete third true molar; from Lehri, Punjab. *Fig.* The third molar is figured in the 'Pal. Ind.' *op. cit.* pl. xxxix: the artist has represented it as viewed from the outer instead of the inner side (as stated in the description of the plate), and it should therefore be reversed in order to make it correspond with the other figures in the same volume.

Collected by Mr. Wynne.

- A. 78. The anterior and posterior ridges of the third left upper true molar belonging to the same individual as No. A. 86.

Collected by Mr. Wynne.

- A. 81. The third left upper true molar, with five ridges and a double hind-talon, in an early condition of wear; from Lehri.

Collected by Mr. Wynne.

- A. 144. Third left upper true molar; from Burma. There are five ridges and a double hind-talon, the first part of which might be reckoned as a sixth ridge: the first ridge is somewhat damaged.

No history.

- A. 76. Fragment of large (? 3rd) upper true molar, slightly worn; from Sehwan, Sind.

A. S. B. Collection (No. Sc. 1).

- A. 91. The last ridge of a third (?) true molar; from Sind.

Collected by Mr. Fedden.

- A. 66. Third right lower milk-molar; from the Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xxxvii., fig. 2.

Collected by Mr. Theobald.

- A. 77. Fourth right lower milk-molar, or first true molar; probably *Fig.* from Burma. Figured in the 'Pal. Ind.' *op. cit.* pl. xxxvii., fig. 1. *A. S. B. Collection (No. P. 13).*
- A. 79. Part of fourth left lower milk-molar (or $\overline{m.1}$), showing the hind-talon and two ridges; from Sind. *A. S. B. Collection (No. Sc. 2).*
- A. 74. Second left lower true molar; from Jabi, Punjab. This tooth is much worn and shows four ridges and a large hind-talon. *Collected by Mr. Theobald.*
- A. 97. Left ramus of the mandible, with $\overline{m.2}$ and first four ridges of $\overline{m.3}$; from Niki. The second molar has four ridges and a hind-talon. *Collected by Mr. Theobald.*
- A. 92. A much-worn intermediate lower molar; from the Punjab. *Collected by Mr. Theobald.*
- A. 80. Part of an intermediate lower molar; from Burma. *No history.*
- A. 95. Third right lower true molar in a fragment of the mandible; from Niki, Punjab. This specimen carries five ridges and a hind-talon; the anterior ridges are much worn and broken. In front of the tooth there is a small tooth-like knob, apparently the remnant of an abnormally placed fang of the preceding tooth. *Collected by Mr. Theobald.*
- A. 75. The inner half of the third left lower true molar; from the Potwár district, Punjab. There are four ridges and a talon remaining, the first ridge having been broken away. *Collected by Mr. Theobald.*
- A. 94. Part of the third right lower true molar; from Niki. This tooth has five ridges, and is remarkable for its narrowness. *Collected by Mr. Theobald.*
- A. 30. Part of the third right lower true molar; from Jabi. The tooth is much worn, and shows the last three ridges and the hind-talon. *Collected by Mr. Theobald.*
- A. 136. Greater part of the third left lower true molar; from Burma. There are five ridges and a small talon. *No history.*
- A. 148. Fragment of the left ramus of the mandible, containing the hinder half of the third true molar; probably from Burma. It shows four ridges and a hind-talon, the first three remaining ridges being well worn. There are large accessory

tubercles at the inner extremities of the valleys; the worn dentine surfaces present the characteristic transverse elongation.

A. S. B. Collection (No. A. 4).

- A. 72.** The third right upper premolar, provisionally referred to this species; from Asnot, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xxxvii., fig. 7.

Collected by Mr. Theobald

- A. 70.** A tooth agreeing with the last; from Sind.

Collected by Mr. Fedden.

- A. 71.** A fourth right upper premolar, agreeing with No. A. 64; from Asnot.

Collected by Mr. Theobald.

- A. 73.** A similar tooth to the last; from Asnot.

Collected by Mr. Theobald.

Mastodon perimensis, Falc. and Caut.

"Fauna Antiqua Sivalensis," pt. 4, pl. xxxi. (1847).

- A. 101.** Cast of cranium. The original is from Perim Island, and is now in the British Museum; it is figured in the 'F. A. S.' pls. xxxviii., xxxix.

A. S. B. Collection.

- A. 16.** A second right upper milk-molar, provisionally referred to the present species; from the Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xli., fig. 3.

Collected by Mr. Theobald.

- A. 67.** Cast of third left upper milk-molar. The original is from Perim Island, and is preserved in the British Museum (No. 40778): it is figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. xvii., fig. 3.

A. S. B. Collection.

- A. 48.** Fragment of the left maxilla containing pm. 4 and m. 1.; from the Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xl.

Collected by Mr. Theobald.

- A. 49.** Fragment of a tooth with two ridges remaining, which may be m. 1.; from the Punjab.

Collected by Mr. Theobald.

- A. 355.** The second right lower (?) true molar; from Perim Island. This specimen is to be figured in the introduction to the third volume of ser. 10 of the 'Pal. Ind.' *No history.*

- A. 437.** The second right upper true molar, wanting the hind ridge and talon; from Perim Island. Figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. xvi., fig. 2.

Collected by Mr. Fedden, 1883.

- A. 53. The second right upper true molar, partially worn and somewhat broken; from Perim Island. Figured in 'Pal. Mem.' vol. i., pl. ix., figs. 5, 6. *A. S. B. Collection (No. P. 2).*
- A. 46. The complete third left upper true molar; from the Punjab. Fig. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xlii. *Collected by Mr. Theobald.*
- A. 51. Hinder part of third right upper true molar, with three ridges and talon remaining; from Perim Island. This specimen is smaller than No. A. 46. *A. S. B. Collection.*
- A. 61. The first three ridges of third right upper true molar; from near Bhimbar (N. W. of Jamu). *Collected by Mr. Theobald.*
- A. 62. The first four ridges of third left upper true molar, agreeing exactly with No. A. 46; from near Jamu. *Collected by Mr. Theobald.*
- A. 54. The second left lower true molar; from the Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xli., fig. i. *Collected by Mr. Theobald.*
- A. 45. The third right lower true molar; from near Niki, Punjab. This tooth has five ridges and a talon; the valleys have accessory tubercles and the worn first ridge exhibits the characteristic trefoil. *Collected by Mr. Theobald.*
- A. 47. The third left lower true molar; from the Potwár district, Punjab. *Collected by Mr. Theobald.*
- A. 58. Cast of fragment of right ramus of mandible with $\overline{m. 3}$. The original is from Perim Island, and is figured in the 'F. A. S.' pl. xxxi., fig. 11. The tooth agrees very closely with No. A. 47. *A. S. B. Collection.*
- A. 84. The complete mandible, showing part of $\overline{m. 2}$ and the perfect $\overline{m. 3}$ of either side; from the Punjab. This specimen is noticed in the 'Pal. Ind.' ser. 10, vol. i., p. 245; there are no tusks. *Collected by Mr. Theobald.*
- A. 85. The third left lower true molar, somewhat damaged, but agreeing precisely with $\overline{m. 3}$ of No. A. 84; from near Niki. *Collected by Mr. Theobald.*
- A. 59. Part of the symphysis of the mandible, showing sections of a pair of small tusks; from near Niki. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xliii., fig. 2. *Collected by Mr. Theobald.*

A. 60. The extremity of a similar mandible, also exhibiting sections of tusks; from near Niki. *Collected by Mr. Theobald.*

A. 83. The symphysis of a mandible without tusks; from near Jabi, Punjab. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xliii., fig. 1. *Collected by Mr. Theobald.*

A. 96. Fragment of right ramus of mandible, showing part of third (P) true molar; probably from Perim Island. *A. S. B. Collection (No. P. 102).*

A. 56. Fragment of a molar with three ridges remaining, referred by Falconer to this species; from Perim Island. *A. S. B. Collection (No. P. 3).*

A. 413. A molar; from Perim Island. *Captain Searle's Collection.*

B. Trilophodont group.

• **Mastodon pandionis, Falc.**

'Pal. Mem.' vol. i., p. 124, pl. xxxiv (1868).

A. 31. Portion of tooth regarded as m.m. 4; from Sind. *Collected by Mr. Fedden*

A. 347. Cast of first left upper true molar. The original is probably from Sind, and is in the British Museum (No. 40818): it is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. v., fig. 5. *Purchased.*

A. 33. A very much worn first left upper true molar; from Asnot, Punjab. This specimen is figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. xxxii., fig. 4 (under the name of *M. falconeri*, but is referred to the present species in vol. iii., p. 34). The form of the crown is slightly different from that of the last specimen. *Collected by Mr. Theobald.*

A. 436. Cast of first right upper true molar. The original is from Perim Island, and is figured in the 'Pal. Ind.' *op. cit.* vol. iii., pl. xvii., fig. 2. The shape of the crown agrees with that of the last specimen. *Made from the original, 1884.*

A. 350. The palate, showing m. 2 and m. 3 of both sides; from the Punjab. The left dentition of this splendid specimen is figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. xxxva. *Collected by Mr. Theobald, 1880.*

A. 41. The third left upper true molar; from the Punjab. *Collected by Mr. Theobald.*

- A. 63. The third right upper true molar; from the Punjab: from Asnot, Punjab.
- A. 42. Fragment of a tooth which may be the second left upper true molar; from Sind. *Collected by Mr. Fedden.*
- A. 424. The first left lower true molar; from Dera Búgti. Figured *Fig.* in the 'Pal. Ind.' *op. cit.* vol. iii., pl. v., fig. 1. *Collected by Mr. Blanford, 1882.*
- A. 37. A first lower true molar, partly broken; from Asnot. Figured *Fig.* in the 'Pal. Ind.' *op. cit.* vol. i., pl. xxxv., fig. 1. It is there described as belonging to the right side, but this may be erroneous. *Collected by Mr. Theobald.*
- A. 43. A first lower true molar, with one ridge broken; from Perim Island. *No history.*
- A. 39. The second left lower true molar; from Niki, Punjab. The tooth has three ridges and fore-and-aft talons.
- A. 98. Symphysis and part of the right ramus of the mandible; from *Fig.* Asnot. The last true molar is *in situ* and is figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. xxxv., fig. 4; the symphysis (which is tuskless) being figured in pl. xxxvi., fig. 1. *Collected by Mr. Theobald.*
- A. 99. The distal portion of a tusked symphysis; from Niki. *Fig.* figured in the 'Pal. Ind.' *op. cit.* pl. xxxvi., fig. 2. *Collected by Mr. Theobald.*
- A. 100. The greater portion of the mandible, containing $\overline{m. 2}$ and *Fig.* $\overline{m. 3}$ of either side; from the Punjab. The teeth of the right side are figured in the 'Pal. Ind.' *op. cit.* pl. xxxiv.; they differ somewhat from $\overline{m. 3}$ of No. A. 98, but agree precisely in shape with $\overline{m. 1.}$, No. A. 424; No. A. 37 agreeing in shape with No. A. 98. These differences are analogous with those prevailing between the first upper molars, Nos. A. 436 and A. 436, and indicate a broad and a narrow-toothed variety of the species. *Collected by Mr. Theobald.*
- A. 27. A last lower true molar; from the Punjab. This tooth agrees with $\overline{m. 3}$ of No. A. 100. *Collected by Mr. Theobald.*
- A. 407. Imperfect molars; from Sind. *Collected by Messrs. Blanford and Fedden.*
- A. 408. Imperfect molars; from the Punjab. *Collected by Mr. Theobald.*

- A. 354.** Cast of extremity of the right ramus of the mandible of a young individual provisionally referred to this species. The original is said to be from the Siwalik Hills (? Sind), and is in the British Museum. It is noticed in the 'Pal. Ind.' ser. 10, vol. ii., p. 65: the first tooth of which the alveolus remains is probably $\overline{\text{m.m. 2}}$, and not $\overline{\text{m.m. 1}}$, as there suggested. *Purchased.*

The reference of the following specimens is provisional.

- A. 50.** A small tooth figured in the 'Pal. Ind.' *op. cit.* vol. i., pl. xxxv., *Fig.* fig. 3, as the third left upper milk-molar: if this be correct the specimens Nos. A. 26, 34, 35 (pp. 103-4), cannot belong to this species; from the Punjab. *Collected by Mr. Theobald.*
- A. 68.** A small tooth figured in the 'Pal. Ind.' *op. cit.* pl. xxxvii., *Fig.* 3, as the third left lower milk-molar; from Sind. *Collected by Mr. Blanford.*
- A. 322.** A small tooth figured in the 'Pal. Ind.' *op. cit.* pl. xxxv., *Fig.* 2, as the fourth left lower premolar; from Sind. *Collected by Mr. Blanford.*
- A. 69.** A tooth corresponding with No. A. 322; from Sind. *Collected by Mr. Fedden.*
- A. 432.** The fourth right upper premolar; from Dera Búgti. Figured in the 'Pal. Ind.' *op. cit.* vol. iii., woodcut, p. 31. *Collected by Mr. Blanford, 1882.*
- A. 433.** The homologous tooth; from Dera Búgti. Figured in the 'Pal. Ind.' *op. cit.* pl. v., *Fig.* 6. *Collected by Mr. Blanford, 1882.*
- A. 434.** Homologous tooth of left side; from Dera Búgti. *Collected by Mr. Blanford, 1882.*

Mastodon angustidens, Cuv.

'Ann. d. Muséum' vol. viii., p. 412 (1806). (*Mastodonte à dents étroites.*)

Var. palæindicus, Lyd.

'Pal. Ind.' ser. 10, vol. iii., p. 19 (1884).

- A. 427.** Second left upper true molar; from Dera Búgti. Figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. iv., *Fig.* 1. *Collected by Mr. Blanford, 1882.*
- A. 425.** Second left upper true molar; from Dera Búgti. Figured in the 'Pal. Ind.' *op. cit.* pl. iv., *Fig.* 2. *Collected by Mr. Blanford, 1882.*

- A. 422. Fourth left lower milk-molar; from Dera Búgti. Figured in the 'Pal. Ind.' *op. cit.* pl. iv., fig. 5.

Collected by Mr. Blanford, 1882.

- A. 417. Part of first right lower true molar; from Dera Búgti. Fig. Figured in the 'Pal. Ind.' *op. cit.* pl. v., fig. 7.

Collected by Mr. Blanford, 1882.

- A. 421. Greater part of first left lower true molar; from Dera Búgti. Fig. Figured in the 'Pal. Ind.' *op. cit.* pl. iv., fig. 8.

Collected by Mr. Blanford, 1882.

- A. 423. Second left lower true molar; from Gandoi, Búgti Hills. Fig. Figured in the 'Pal. Ind.' *op. cit.* pl. iv., fig. 7.

Collected by Mr. Blanford, 1882.

- A. 426. Third right lower true molar, associated with No. A. 425. Fig. Figured in the 'Pal. Ind.' *op. cit.* pl. iv., fig. 3.

Collected by Mr. Blanford, 1882.

- A. 435. Fragment of right ramus of mandible, with base of $\overline{m. 3}$; from Dera Búgti.

Collected by Mr. Blanford, 1882.

The reference of the following specimens is provisional.

- A. 428. (?) Third right upper premolar; from Dera Búgti. Figured in the 'Pal. Ind.' *op. cit.* pl. v., fig. 4.

Collected by Mr. Blanford, 1882.

- A. 429. (?) Fourth right upper premolar; from Dera Búgti. Figured in the 'Pal. Ind.' *op. cit.* pl. v., fig. 2.

Collected by Mr. Blanford, 1882.

- A. 430. (?) Fourth left lower premolar; from Dera Búgti. Figured in the 'Pal. Ind.' *op. cit.* pl. iv., fig. 6.

Collected by Mr. Blanford, 1882.

- A. 431. An unworn tooth corresponding to the last Figured in the 'Pal. Ind.' *op. cit.* pl. iv., fig. 4.

Collected by Mr. Blanford, 1882.

Mastodon falconeri, Lyd.

'Rec. Geol. Surv. Ind.,' vol. x., p. 83 (1877).

- A. 38. The second left upper true molar; from Asnot, Punjab. Fig. This tooth is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xxxii., fig. 1.

Collected by Mr. Theobald.

- A. 327. The two terminal ridges of the second upper true molar, agreeing exactly with No. A. 38; from the Deraját.

Dr. Verchère's Collection.

- A. 32. First right upper true molar; from Sind. Figured in the
Fig. 'Pal. Ind.' *op. cit.* pl. xxxiii., fig. 3 (as $\overline{m. 1.}$, but referred
in vol. iii., p. 22 to $\overline{m. 1.}$) Collected by Mr. Theobald.
- A. 29. Part of right ramus of the mandible with $\overline{m. 2.}$; from the Pot-
Fig. wár district, Punjab. Figured in the 'Pal. Ind.' *op. cit.*
vol. i., pl. xxxiii., figs. 1, 4. This specimen is the type.
Collected by Mr. Theobald.
- A. 28. The second lower molar of smaller size than the last, but
perhaps belonging to the same species; said to be from
Burma. No history.
- A. 52. The last two ridges of the second right lower true molar;
from Asnot. This specimen corresponds very closely
with No. A. 29, but has a smaller hind-talon.
Collected by Mr. Theobald.
- A. 44. Part of left ramus of the mandible of a specifically undeter-
mined trilophodont *Mastodon*: from the Potwár. The
specimen shows $\overline{m. 3.}$, which contains three ridges and
fore-and-aft talons; it may belong to the present species.
Collected by Mr. Theobald.
- A. 40. The fourth right lower milk-molar of a trilophodont *Mastodon*
which it has been thought may belong to the present
species; from the Potwár. Collected by Mr. Theobald.

Mastodon, sp.

The following specimens were referred in ser. 10, vol. i., of
the 'Pal. Ind.' to *M. falconeri*, but in vol. iii., pp. 32, 33,
reasons are given for doubting this identification. It is
possible that they belong to *M. pandionis*,¹ but there are
no signs of their being succeeded by premolars: they
closely resemble the corresponding teeth of *M. panteleci*.

- A. 26. The imperfect cranium of a young individual, containing
Fig. $\overline{m.m. 4}$ and $\overline{m. 1}$ of both sides; from Niki, Punjab. The
left $\overline{m.m. 4.}$ is figured in the 'Pal. Ind.' ser. 10, vol. i.,
pl. xxxii., fig. 3. Collected by Mr. Theobald.
- A. 34. The third upper milk-molars of both sides, associated with
Fig. No. A. 26. The left tooth is figured in the 'Pal. Ind.' *op.*
cit. pl. xxxii., fig. 2. Collected by Mr. Theobald.

¹ Vide 'Pal. Ind.' ser. 10, vol. iii., p. 154. The circumstance that these teeth
have corrugated enamel while the true molars of *M. falconeri* have smooth enamel
does not of itself indicate specific distinction, as a similar difference occurs between
the milk and permanent molars of *M. arvernensis* (F. A. S. pl. xxxvi., figs. 6
and 9), and *M. sivalensis*.

- A. 35. A germ corresponding with the preceding specimen; from the Potwár district, Punjab. *Collected by Mr. Theobald.*
- A. 36. The third right lower milk-molar, associated with No. A. 26. *Fig.* Figured in the 'Pal. Ind.' *op. cit.* pl. xxxiii., fig. 2. *Collected by Mr. Theobald.*

Family DINOTHERIIDÆ.

Genus DINOTHERIUM, Kaup.

'Isis,' vol. xxii., p. 401 (1829).

Dinotherium indicum,¹ Falc.

'Quart. Journ. Geol. Soc.,' vol. i., p. 361 (1845).

- A. 323. Hinder ridge of second left upper true molar; from the *Fig.* Deraját. Figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xxxi., fig. 1 (as of the right side). *Dr. Verchère's Collection.*
- A. 321. First left lower true molar; from Sind. Figured in the 'Pal. Ind.' *op. cit.* pl. xxxi., fig. 2. *Collected by Mr. Blanford.*
- A. 24. Cast of part of left ramus of the mandible. The original is from Perim Island, and is now in the British Museum; figured in the 'F. A. S.' pl. xxxv., fig. 6. *A. S. B. Collection.*
- A. 25. Cast of a cervical vertebra. The original is from Perim Island and is now in British Museum.

A. S. B. Collection.

Dinotherium pentapotamizæ, Lyd. (*ex* Falc. MS.)

'Pal. Ind.' ser. 10, vol. i., p. 72 (1876).

Syn. *Antoletherium*, Falc.

- A. 1. Third right upper premolar; from Khushálgarh, Punjab. This *Fig.* (with No. A. 2) is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. ix., fig. 1. *Presented by Lieuts. Garnett and Trotter.*
- A. 6. Third left upper premolar, rather smaller than the last; from Sind. *Collected by Mr. Fedden.*
- A. 7. Anterior half of fourth left upper premolar; from Sind. *Collected by Mr. Fedden.*

¹ This and the two next species have been identified by Weinsheimer with *D. giganteum*, Kaup (*vide* Pal. Ind. ser. 10, vol. III., p. 34). It is not impossible that *D. indicum* and *D. pentapotamizæ* may belong to one species.

- A. 12.** Fourth left upper premolar; from Sind. Figured in the 'Pal. Ind.' *op. cit.* pl. xxxi., fig. 3. *Collected by Mr. Blanford.*
- A. 324.** Hinder half of fourth left upper premolar; from the Deraját. *Dr. Verchère's Collection.*
- A. 2.** First right upper true molar, associated with No. A. 1. Figured *Fig.* in the 'Pal. Ind.' *op. cit.* pl. ix., fig. 2. *Presented by Lieuts. Garnett and Trotter.*
- A. 3.** Part of first right upper true molar; from Kach. Figured *Fig.* in the 'Pal. Ind.' *op. cit.* pl. ix., fig. 4. *Collected by Mr. Fedden.*
- A. 4.** Fragment of first left upper true molar; from Kach. *Collected by Mr. Fedden.*
- A. 5.** First ridge of first left upper true molar; from Sind. *Collected by Mr. Fedden.*
- A. 11.** Fragment of first left upper true molar; from Sind. *Collected by Mr. Blanford.*
- A. 19.** Last ridge of first left upper true molar; from Sind. *Collected by Mr. Fedden.*
- A. 10.** Second right upper true molar; from Kach. Figured in the *Fig.* 'Pal. Ind.' *op. cit.* pl. ix., fig. 3.
- A. 351.** The second left upper true molar; from Kumliál Kúr, Punjab; from a bed very low in the series. *Collected by Mr. Wynne.*
- A. 352.** Part of the third left upper true molar, associated with the last.
- A. 20.** Fragment of the right ramus of the mandible, containing *Fig.* $\overline{\text{pm. 4}}$, $\overline{\text{m. 1}}$, and $\overline{\text{m. 2}}$; from Kushálgarh. Figured in 'Falconer's Palæontological Memoirs,' vol. i., pl. xxxiv., figs. 1 and 2 (as *Antoletherium*), and in the 'Pal. Ind.' *op. cit.* pl. xxix., figs. 2, 3. *Presented by Lieuts. Garnett and Trotter.*
- A. 21.** Fragment of left ramus of mandible with $\overline{\text{m. 2}}$ and $\overline{\text{m. 3}}$; *Fig.* locality unknown. Figured in the 'Pal. Ind.' *op. cit.* pl. xxix., fig. 1. *A. S. B. Collection.*
- A. 22.** Part of left ramus of mandible with all the cheek-teeth except *Fig.* $\overline{\text{pm. 1}}$; from Sind. Figured in the 'Pal. Ind.' *op. cit.* pl. xxx. *Collected by Mr. Blanford.*

- A. 18. One ridge of fourth right lower premolar; from Sind.
Collected by Mr. Fedden.
- A. 13, 9, 15. Three specimens of the hinder half of the last lower true molar; from Sind, *Collected by Mr. Fedden.*
- A. 14. Last ridge and talon of the third left lower true molar; from Sind. Figured in the 'Pal. Ind.' *op. cit.* pl. ix., fig. 5 (as $\overline{m. 1}$, but referred on page 192 to $\overline{m. 3}$).
Collected by Mr. Fedden.
- A. 325. Half of a third lower molar, cut and polished; from the Deraját.
Dr. Verchère's Collection.
- A. 326. The third left lower molar; from the Siwalik Hills.
By exchange with the Rürki Museum.
- A. 335. The third right lower true molar; from the Deraját.
By exchange with the Lahore Museum.
- A. 336. The second right lower true molar, probably belonging to the same individual as the last; from the Deraját.
By exchange with the Lahore Museum.
- The reference of the following specimens is provisional.*
- A. 8. The third right upper milk-molar, bearing two ridges; from Khushálgarh.
Collected by Mr. Theobald.
- A. 17. The third upper milk-molar; from Sind.
Collected by Mr. Fedden.
- A. 337. The third right upper milk-molar; from the Deraját.
By exchange with the Lahore Museum.

Dinotherium sindiense, Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 196 (1880).

- A. 23. Fragment of the right ramus of the mandible, with $\overline{m. 2}$ and $\overline{m. 3}$ (broken); from Sind. This specimen is the type, and is figured in the 'Pal. Ind.' ser. 10, vol. i., pl. xxxi., fig. 4.
Collected by Mr. Fedden.
- A. 409. Part of one ramus of the mandible, with the crowns of the molars broken off; from the Kohát district. Noticed in the 'Pal. Ind.' *op. cit.* p. 292.
Collected by Mr. Wynne, 1880.

GENERALLY UNDETERMINED REMAINS.¹

- A. 416. Lower (?) molar of a trilophodont *Mastodon*; from Dera Búgti. *Collected by Mr. Blanford, 1882.*
- A. 418. Much-worn upper molar of a trilophodont *Mastodon* or *Dinotherium*; from Dera Búgti. *Collected by Mr. Blanford, 1882.*
- A. 419. A lower molar in a fragment of mandible; from Dera Búgti. *Collected by Mr. Blanford, 1882.*
- A. 420. Fragment of molar; from Dera Búgti. *Collected by Mr. Blanford, 1882.*
- A. 293. Tusk in fragments; from the Siwalik Hills. *No history.*
- A. 300. Tip of tusk.
- A. 301. Fragment of young tusk; from the Siwalik Hills. *A. S. B. Collection.*
- A. 302. Fragment of tusk; from the Siwalik Hills. *A. S. B. Collection.*
- A. 303. Two extremities of tusks.
- A. 308. Part of a tusk in two pieces.
- A. 318. Tip of tusk; from Burma. *No history.*
- A. 319. Tips of two young tusks.
- A. 381. Part of scapula.
- A. 384. The two extremities of a humerus.
- A. 385. Proximal half of a humerus.
- A. 386. Two specimens of the head of the humerus.
- A. 382. Distal extremity of a humerus.
- A. 383. Ditto ditto.
- A. 400. A carpal bone.
- A. 328. Left lunar.
- A. 329. A smaller left lunar.
- A. 330. Right lunar.
- A. 331. Right cuneiform (*carpi*).
- A. 332. Broken left cuneiform.
- A. 360. Two specimens of the median metacarpal.
- A. 361. A median metacarpal.
- A. 362. A metacarpal.
- A. 370. Two phalangeals.
- A. 371. Ditto ditto.
- A. 372. A phalangeal.
- A. 373. Two phalangeals.
- A. 374. Ditto ditto.

¹ Except when otherwise stated, the following specimens are from the Punjab, and were collected by Mr. Theobald.

- A. 375. A phalangeal.
 A. 376. A phalangeal; from the Siwalik Hills. *A. S. B. Collection.*
 A. 390. Two specimens of the head of the femur.
 A. 387. Two specimens of the distal end of the femur.
 A. 388. Ditto ditto.
 A. 389. The distal end of a femur.
 A. 378. Two specimens of the patella.
 A. 379. Ditto ditto.
 A. 380. A patella.
 A. 377. A small tibia, probably belonging to the same individual as the young *Mastodon* cranium No. A. 26 (page 103); from Niki.
 A. 391. Two specimens of the proximal end of the tibia.
 A. 392. The proximal end of a tibia; from the Markanda valley.
Presented by Col. Godwin-Austen, 1866.
 A. 411. Part of tibia; from Perim Island. *Captain Searle's Collection.*
 A. 412. A fibula; from Perim Island. *Captain Searle's Collection.*
 A. 356. Two specimens of the astragalus.
 A. 357. Ditto ditto.
 A. 358. An astragalus; from Sind. *Collected by Mr. Fedden.*
 A. 367. An astragalus.
 A. 359. Two specimens of the calcaneum.
 A. 368. The calcaneum of a calf, associated with No. A. 367.
 A. 363. Two metatarsals.
 A. 364. A metatarsal.
 A. 365. A metatarsal; from Sind. *Collected by Mr. Fedden.*
 A. 366. Two metatarsals.
 A. 369. A metatarsal.
 A. 393. An atlas vertebra.
 A. 394. An atlas vertebra; from Perim Island. *No history.*
 A. 395. A cervical vertebra.
 A. 396. Ditto.
 A. 397. Ditto.
 A. 410. Ditto ; from Perim Island.
Captain Searle's Collection.
 A. 398. Neural spine of a dorsal vertebra.
 A. 399. A dorsal vertebra.
 A. 404. Various bones; from Burma. *Collected by Mr. Blanford.*
 A. 405. Ditto ; from Sind.
Collected by Messrs. Blanford and Fedden.
 A. 406. Ditto.

Order EDENTATA.

Suborder *SQUAMATA*.

Family MANIDÆ.

Genus **MANIS**, Linn.

"Syst. Nat.," ed. 12, vol. i., p. 52 (1766).

Manis sindiensis, Lyd.

'Pal. Ind.' ser. 10, vol. i., p. 82 (1876).

- D. 99.** The second phalangeal of the third digit of the manus; from
Fig. Sind. Figured in the 'Pal. Ind.' *op. cit.* pl. viii., figs.
 11-14. *Collected by Mr. Fedden, 1875.*

UNDETERMINED.

The following specimens are figured in the 'Pal. Ind.' ser. 10, vol. iii., pl. xiv., pp. 2, 4, 5, 6, as belonging to a struthioid bird; but have been subsequently found to be mammalian. (*Vide* 'Geol. Mag.' Dec. iii., vol. ii., p. 237 (1885). They were all collected by Mr. Theobald in the Punjab:—

- E. 1.** A first phalangeal. Figured, *op. cit.* fig. 2.
Fig.
E. 2. A first phalangeal. Figured, *op. cit.* fig. 6.
Fig.
E. 3. A second phalangeal. Figured, *op. cit.* fig. 4.
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CATALOGUE
OF THE REMAINS OF
SIWALIK VERTEBRATA.

CATALOGUE
OF THE REMAINS OF
SIWALIK VERTEBRATA
CONTAINED IN
THE GEOLOGICAL DEPARTMENT
OF
THE INDIAN MUSEUM,
CALCUTTA.
PART II.
AVES, REPTILIA, AND PISCES.

BY
RICHARD LYDEKKER, B.A., F.G.S., ETC.

CALCUTTA:
PRINTED BY THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA
1886.

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CATALOGUE
OF
SIWALIK VERTEBRATA.

PART II.

Class **AVES.**

Subclass *CARINATÆ*.

Order **STEGANOPODES.**

Family **PELECANIDÆ.**

Genus **PELECANUS**, Linn.

"Syst. Nat." ed. 12, vol. i, p. 216 (1766).

Pelecanus cautleyi, Davies.

'Geol. Mag.' Dec. 2, vol. vii, p. 26 (1880).

- E. 170.** Cast of the distal extremity of the left ulna. The original, which is the type, is from the Siwalik Hills, and is in the British Museum (No. 39740); it is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xiv, figs. 11, 11a. *Purchased.*

Pelecanus sivalensis, Davies.

'Geol. Mag.' Dec. 2, vol. vii, p. 26 (1880).

- E. 171.** Cast of the distal extremity of an ulna. The original is the type, and was obtained from the Siwalik Hills. It is preserved in the British Museum (No. 39745); and is described in the 'Pal. Ind.' ser. 10, vol. iii, p. 137. *Purchased.*

Genus **PHALACROCORAX**,¹ Brisson.

"Ornithologie" vol. vi, p. 511 (1760).

Phalacrocorax, sp.

'Pal. Ind.' ser. 10, vol. iii, p. 138 (1884.)

- E. 172. Cast of the proximal half of the tarso-metatarsus. The original, which is the type, was obtained from the Siwalik Hills, and is preserved in the British Museum (No. 39742); it is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xiv, figs. 10, 10a. *Purchased.*

Order HERODIONES.

Family CICONIIDÆ.

Genus **LEPTOPTILUS**, Lesson.

"Traité d'Ornithologie," p. 583 (1831).

Leptoptilus falconeri (Milne-Edwards).

'Oiseaux Fossiles de la France,' vol. i, p. 449 (1869-71).—*Argala.*

- E. 165. Cast of the distal extremity of the left humerus. The original came from the Siwalik Hills, and is in the British Museum (No. 48435); it is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xiv, fig. 1. *Purchased.*
- E. 168. Cast of the proximal third of the first phalangeal of the manus. The original came from the Siwalik Hills, and is in the British Museum (No. 39738); it is noticed in the 'Pal. Ind.,' ser. 10, vol. iii, p. 140. *Purchased.*
- E. 169. Cast of the distal extremity of the left femur. The original came from the Siwalik Hills, and is in the British Museum (No. 39737); it is noticed in the 'Ind. Pal.' *loc. cit.* *Purchased.*
- E. 166. Cast of the distal extremity of a tibio-tarsus. The original came from the Siwalik Hills, and is in the British Museum. *Purchased.*
- E. 10. The distal extremity of the right tibio-tarsus; from the Punjab. *Fig.* Figured in the 'Pal. Ind.,' *op. cit.*, pl. xiv, figs. 9, 9a, 9b. *Collected by Mr. Theobald.*
- E. 167. Cast of distal extremity of the left tarso-metatarsus. The original is from the Siwalik Hills, and is in the British Museum (No. 39736); it is figured in the 'Pal. Ind.,' *op. cit.*, pl. xiv, fig. 14. *Purchased.*

¹ Since writing the 'Pal. Ind.,' ser. 10, vol. iii, pt. 4, the writer has adopted the view of including this genus in the *Pelecanidae*.

- E. 9. First phalangeal of the outer digit of the pes; from the Punjab.
Fig. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xiv, fig. 12.
Collected by Mr. Theobald.

Genus *non-det.*

- E. 8. The fourth cervical vertebra; from Asnot, Punjab. Described
Fig. and figured in the 'Pal. Ind.' ser. 10, vol. iii, p. 141, pl. xiv,
 figs. 7, 7a, 7b, 7c., 7d. *Collected by Mr. Theobald.*

Order ANSERES.

Family ANATIDÆ.

Genus **MERGUS**, Linn.

"Syst. Nat.," ed. 12, vol. i, p. 208 (1766).

Mergus, (?) sp.

'Pal. Ind.' ser. 10, vol. iii, p. 142 (1884).

- E. 212. An early cervical vertebra; from the Punjab. Figured in
Fig. the 'Pal. Ind.' ser. 10, vol. iii, pl. xiv, figs. 3, 3a, 3b.
Collected by Mr. Theobald.

Fam. and Genus *non-det.*

- E. 213. First phalangeal of the median digit of the pes; from the
Fig. Punjab. Described and figured in the 'Pal. Ind.,' ser. 10,
 vol. iii, p. 143, pl. xiv, fig. 13. *Collected by Mr. Theobald.*

Subclass *RATITÆ*.

Family STRUTHIONIDÆ.

Genus **STRUTHIO**, Linn.

"Syst. Nat." ed. 12, vol. i, p. 265 (1766).

Struthio asiaticus, Milne-Edwards.

"Oiseaux Fossiles de la France," vol. ii, p. 587 (1871).

- E. 173. Cast of the distal part of the right tarso-metatarsus, with
 part of the associated first phalangeal of the inner digit. The
 original is from the Siwalik Hills, and is in the British Mu-
 seum (No. 43105); it is figured in the 'Pal. Ind.,' ser. 10,
 vol. iii, pl. xv, fig. 3. *Purchased.*

- E. 5. Cast of the distal portion of the right tibio-tarsus. The original is from the Siwalik Hills, and is in the British Museum; it is figured in the 'Pal. Ind.' *op. cit.*, pl. xv, figs. 2, 2a.
A. S. B. Collection.
- E. 7. The greater portion of the shaft of the right tibio-tarsus and
Fig. fibula; from the Siwalik Hills. Figured in the 'Pal. Ind.,'
op. cit., pl. xv, figs. 1, 1a. A. S. B. Collection.

Genus *non-det.*

- E. 174. Cast of the second phalangeal of the middle digit of the pes. The original is from the Siwalik Hills, and is in the British Museum (No. 39733); it is figured in the 'Pal. Ind.,' *op. cit.*, pl. xv, fig. 8.
Purchased.

Class REPTILIA.

Order CHELONIA.

Family TESTUDINIDÆ.

Genus COLOSSOCHELYS, Falconer and Cautley.

'Proc. Zool. Soc.' 1844, p. 54.

Colossochelys atlas, Falc. and Caut.

'Proc. Zool. Soc.' 1844, p. 54.

- E. 76. The epiplastra of a small individual; from the Siwalik Hills.
A. S. B. Collection. (No. S. 654.)
- E. 77. Cast of a cranium provisionally referred to a female of this species. The original is from the Siwalik Hills, and is in the British Museum (No. 39819); it is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xix, figs. 3, 3a, 3b. A. S. B. Collection.
- E. 181. Cast of xiphiplastron. The original is from the Siwalik Hills, and is in the British Museum (No. 40629); it is described in the 'Pal. Ind.,' *op. cit.*, p. 159. A. S. B. Collection.
- E. 180. Cast of part of the humerus. The original is from the Siwalik Hills, and is in the British Museum. A. S. B. Collection.
- E. 211. A coracoid, perhaps belonging to this species; from Perim Island.
A. S. B. Collection (No. P. 1. 91).

Genus *non-det.*

SPECIES 1.

'Pal. Ind.' ser. 10, vol. iii, p. 165 (1885).

- E. 82.a. The anterior extremity of the plastron; from the Siwalik
Fig. Hills. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xviii, fig. 4.
A. S. B. Collection (No. S. 673).

SPECIES 2.

'Pal. Ind.,' ser. 10, vol. iii, p. 166 (1885).

(? *Cautleya annuliger*, Theobald).

- E. 82. The anterior extremity of the plastron; from the Punjab.
Fig. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xviii, figs. 3, 3a.
Collected by Mr. Theobald.
- E. 86. A posterior free marginal scute, perhaps belonging to the
Fig. present form; from Nila, Punjab. Figured in the
'Records,' vol. xii, p. 186, as *Cautleya annuliger*, of which
it is the type, and noticed in the 'Pal. Ind.,' *op. cit.*, p. 167.
Collected by Mr. Theobald.

SPECIES 3.

'Pal. Ind.,' ser. 10, vol. iii, p. 168 (1885).

- E. 84. The anterior extremity of the plastron; from the Punjab.
Fig. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xviii, fig. 2.
Collected by Mr. Theobald.

SPECIES 4.

'Pal. Ind.,' ser. 10, vol. iii, p. 168 (1885).

- E. 80. Two halves of the anterior portion of the plastron; from the
Fig. Punjab. One is figured in the 'Pal. Ind.,' *op. cit.*, pl. xix,
figs. 1, 1a. Collected by Mr. Theobald.
- E. 79. The anterior extremity of a rather smaller plastron; from Nila,
Punjab. Noticed in the 'Pal. Ind.,' *op. cit.*, p. 169.
Collected by Mr. Theobald.
- E. 85. The anterior portion of a plastron, probably belonging to this
form; from the Punjab. Collected by Mr. Theobald.
- E. 81. A nuchal scute, provisionally referred to this form; from the
Fig. Punjab. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xix, fig. 4.
Collected by Mr. Theobald.
- E. 83. The left posterior half of a xiphiplastron, provisionally referred
to this form; from the Punjab. Noticed in the 'Pal. Ind.,'
op. cit., p. 169. Collected by Mr. Theobald.

The following specimen is not specifically determined :—

- E. 182. The greater part of the shell of a large tortoise in numerous fragments; from the Markanda Valley, Siwalik Hills.
Presented by Col. H. H. Godwin-Austen, 1866.

Family EMYDIDÆ.

Genus CLEMMYS, Wagler.

'Syst. Nat. Amphib., etc.,' p. 136 (1830).

Clemmys sivalensis (Theobald).

Syn. *Bellia sivalensis*, Theobald.

'Rec. Geol. Surv. Ind.,' vol. x, p. 44 (1877).

- E. 88. The nearly complete shell; from south of Jhand, Punjab.
Fig. This specimen is the type, and is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xx, figs. 1, 1a, 1b.
Collected by Mr. Theobald, 1876.

- E. 90. The nearly complete shell of a smaller individual; from the Punjab. Noticed in the 'Pal. Ind.,' *op. cit.*, pp. 171-72.
Collected by Mr. Theobald.

- E. 91. The anterior portion of the shell; from the Punjab.
Collected by Mr. Theobald.

Clemmys hyaspica, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 172 (1885).

- E. 93. The nearly complete shell; from the Jhelam district, Punjab.
Fig. This specimen is the type, and is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xx, figs. 4, 4a. *Collected by Mr. Theobald.*

Clemmys theobaldi, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 173 (1885).

- E. 89. The nearly complete shell; from Jhand, Punjab. This specimen is the type, and is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xx, figs. 2, 2a, 2b. *Collected by Mr. Theobald.*

Clemmys punjabiensis, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 175 (1885).

- E. 92. The nearly complete shell; from the Punjab. This specimen is the type, and is figured in the 'Pal. Ind.,' *op. cit.*, pl. xx, figs. 3, 3a, 3b. *Collected by Mr. Theobald.*

Clemmys, sp. 5.

(Allied to *C. trijuga* [Schweigg.])

'Pal. Ind.,' ser. 10, vol. iii, p. 176 (1885).

- E. 207. Cast of the nearly complete shell. The original, which is the type, was obtained from the Siwalik Hills, and is preserved in the British Museum (No. 39839); it is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxi, figs. 4, 4a, 4b.

Purchased, 1884.

Clemmys palæindica, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 178 (1885).

- E. 95. Cast of the shell. The original, which, together with that of the next specimen, is the type, was obtained from the Siwalik Hills, and is preserved in the British Museum (No. 39838); it is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxi, figs. 3, 3a.

A. S. B. Collection.

- E. 209. Cast of the shell of a young individual. The original is from the Siwalik Hills, and is preserved in the British Museum (No. 39840); it is figured in the 'Pal. Ind.,' *op. cit.*, pl. xxi, figs. 1, 1a, 1b.

Purchased, 1885.

Clemmys, (♀) sp. 7.

'Pal. Ind.,' ser. 10, vol. iii, p. 180 (1885).

- E. 78. The hinder part of the shell; probably from Perim Island. This specimen is the type, and is described in the 'Pal. Ind.,' ser. 10, vol. iii, p. 181.

A. S. B. Collection (No. P. I., 114).

The following specimens are not specifically determined, and are only provisionally referred to the present genus:—

- E. 204. A shell in a much damaged condition; from Jabi, Punjab.

Collected by Mr. Wynne.

- E. 100. A nuchal scute; probably from Burma.

A. S. B. Collection (No. A. 93).

- E. 101. A nuchal scute; from the Punjab.

Collected by Mr. Theobald.

- E. 102. A nuchal scute; from the Punjab.

Collected by Mr. Theobald.

- E. 87. An anterior free marginal scute; from the Punjab.

Collected by Mr. Theobald.

- E. 96. The xiphiplastral scutes; from the Kangra district.

Collected by Mr. Theobald.

- E. 97. The left xiphiplastral scute; from the Punjab.
Collected by Mr. Theobald.
- E. 98. The right xiphiplastral scute; from Asnot, Punjab.
Collected by Mr. Theobald.
- E. 99. The right xiphiplastral scute; from Asnot.
Collected by Mr. Theobald.

Genus **PANGSHURA**, Gray.

"Catalogue of Shield-Reptiles," pt. 1, p. 36 (1855).

Pangshura, sp.

'Pal. Ind.,' ser. 10, vol. iii, p. 184 (1885).

- E. 208. Cast of the shell of a small individual. The original, which is the type, is from the Siwalik Hills, and is preserved in the British Museum (No. 17435); it is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxii, fig. 1. *Purchased, 1884.*

Genus **BATAGUR**, Gray.

"Catalogue of Shield-Reptiles," pt. 1, p. 35 (1855).

Batagur falconeri, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 187 (1885).

- E. 103. A cranium provisionally referred to this species; from Asnot,
Fig. Punjab. Figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxv,
 figs. 2, 2a, 2b. *Collected by Mr. Theobald.*
- E. 94. The imperfect carapace of a young individual provisionally
Fig. referred to the present species; from Asnot. Figured in the
 'Pal. Ind.,' *op. cit.*, pl. xxv, fig. 1. *Collected by Mr. Theobald.*

Batagur cautleyi, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 194 (1885).

- E. 179. Cast of the shell. The original, which is the type, is from the Siwalik Hills, and is preserved in the British Museum (No. 39834); it is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxiv, figs. 1, 1a. *A. S. B. Collection.*
- E. 178. A nearly complete shell not improbably belonging to the present species; from the Siwalik Hills. Noticed in the 'Pal. Ind.,' *op. cit.*, p. 194. *A. S. B. Collection.*

The following specimens are not specifically determined :—

- E. 176. The nearly complete shell¹; from the Siwalik Hills.
By exchange with the Rürki Museum.
- E. 177. The greater part of the shell; from the Punjab.
Collected by Mr. Theobald.
- E. 110, 111. Numerous detached vertebral scutes; from the Punjab.
Collected by Mr. Theobald.
- E. 107. A posterior free marginal scute; from the Punjab.
Collected by Mr. Theobald.
- E. 108. A posterior free marginal scute; from the Punjab.
Collected by Mr. Theobald.
- E. 109. Portion of a marginal scute; from the Punjab.
Collected by Mr. Theobald.
- E. 105. A right xiphiplastral scute; from Asnot, Punjab.
Collected by Mr. Theobald.
- E. 106. A left xiphiplastral scute; from Asnot.
Collected by Mr. Theobald.

Genus *non-det.*

(cf. **GEOEMYDA** Gray.)

'Pal. Ind.,' ser. 10, vol. iii, p. 195 (1885).

- E. 104. The nuchal scute; from the Punjab. Figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. XXIV, fig. 3.
Collected by Mr. Theobald.

Family TRIONYCHIDÆ.

Genus **EMYDA**, Gray.

"Synopsis Reptilium," p. 49 (1831).

Emyda vittata, Peters.

'Monatsb. k. Ak. preuss. Wiss.' 1854, p. 216,—Syn. *Emyda ceylonensis*, Gray. Proc. Zool. Soc., 1855, p. 201.

- E. 134^b. A right anterior marginal scute, provisionally referred to this species; from the Punjab. Figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxvi, figs. 4, 4a.
Collected by Mr. Theobald.

¹Owing to their excessive weight this and the following specimen were not sent to England when the writer was describing the Siwalik Chelonia. It is not improbable that they may be identical with one or more of the species described in the 'Pal. Ind.,' ser. 10, vol. iii, pp. 187-195 (1885).

- E. 144. A right xiphiplastral callosity, provisionally referred to the present species; from the Punjab. Noticed in the 'Pal. Ind.,' *op. cit.*, p. 198. *Collected by Mr. Theobald.*
- E. 144a. A smaller xiphiplastral callosity, which may be specifically identical with the preceding specimen; from the Punjab. *Collected by Mr. Theobald.*

***Emyda sivalensis*, Lydekker.**

'Pal. Ind.' ser. 10, vol. iii, p. 199 (1885).

- E. 134. The left anterior marginal scute; from the Punjab. This specimen is the type, and is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxvi, fig. 9. *Collected by Mr. Theobald.*
- E. 135. The posterior two-thirds of the right anterior marginal scute; from the Punjab. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xxvi, fig. 7. *Collected by Mr. Theobald.*
- E. 135a. An imperfect anterior marginal scute; from the Punjab. Noticed in the 'Pal. Ind.,' *op. cit.*, p. 200. *Collected by Mr. Theobald.*
- E. 133. The right half of the nuchal scute; from the Punjab. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xxvi, fig. 2. *Collected by Mr. Theobald.*

***Emyda lineata*, Lydekker.**

'Pal. Ind.,' ser. 10, vol. iii, p. 199 (1885).

- E. 210. The imperfect left anterior marginal scute; from the Punjab. This specimen is the type, and is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxvi, fig. 6. *Collected by Mr. Theobald.*
- E. 132. Part of the left half of the nuchal scute; from the Punjab. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xxvi, fig. 3. *Collected by Mr. Theobald.*

***Emyda palæindica*, Lydekker.**

'Pal. Ind.,' ser. 10, vol. iii, p. 201 (1885).

- E. 134a. The left anterior marginal scute; from the Punjab. This specimen is the type, and is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxvi, figs. 5, 5a. *Collected by Mr. Theobald.*
- E. 132a. Part of the left half of the nuchal scute; from the Punjab. A portion of the sculpture is figured in the 'Pal. Ind.,' *op. cit.*, pl. xxvi, fig. 10. *Collected by Mr. Theobald.*

The following specimens, all of which were collected by Mr. Theobald, are not specifically determined:—

- E. 136. Marginal scutes; from the Punjab.
- E. 137. Marginal scutes; from the Punjab.
- E. 138. Marginal scutes; from the Punjab.
- E. 139. Associated costal scutes; from the Kangra district.
- E. 140. Costal scutes; from the Punjab.
- E. 141. Mesoplastral callosity; from the Kangra district.
- E. 142. Mesoplastral callosity; from the Punjab.

Genus **TRIONYX**, Geoffroy.

'Ann. d. Muséum,' vol. xiv, p. 1 (1809).

Trionyx, sp.

'Pal. Ind.,' ser. 40, vol. iii, p. 205 (1885).

- E. 163. The nearly complete shell; from the Siwalik Hills. This specimen, which was bought at a sale in London by the late Prof. Adam Sedgwick, is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxvii, figs. 3, 3a. *By exchange with the Museum of Comparative Anatomy at Cambridge:—*

The following specimens are not specifically determined (see 'Pal. Ind.,' ser. 10, vol. iii, p. 204); unless otherwise stated they were collected by Mr. Theobald in the Punjab:—

- E. 113. Distal part of a costal scute.
- E. 114. Do.; from Burma. *A. S. B. Collection (No. A. 114).*
- E. 117. Do.; from Kala-Kahar, Punjab.
- E. 119. Costal scute.
- E. 120. Do.
- E. 121. Do.
- E. 122. Do. ; from Burma. *A. S. B. Collection.*
- E. 123. Do. ; from Jhand, Punjab.
- F. 124. Do. ; from Perim Island. *Collected by Mr. Blanford.*
- E. 125. Do.
- E. 126. Do.
- E. 127. Do.

- E. 128. Two vertebral scutes.
- E. 131. A specimen provisionally referred to this genus.
- E. 143. Fragment of the plastron.

Genus **CHITRA**, Gray.

"Catalogue of Tortoises in Brit. Mus.," p. 49 (1844).

Chitra indica, Gray.

Syn. *Trionyx indicus*, Gray.

"Synopsis Reptilium," p. 47 (1831).

- E. 112. The proximal part of a costal scute; from Nila, Punjab. This and the two following specimens are noticed in the 'Pal. Ind.,' ser. 10, vol. iii, p. 208. *Collected by Mr. Theobald.*
- E. 116. The distal end of a costal scute; from the Punjab. *Collected by Mr. Theobald.*
- E. 118. Part of a costal scute; from the Punjab. *Collected by Mr. Theobald.*
- E. 115. The distal end of a costal scute, provisionally referred to this species; from the Punjab. *Collected by Mr. Theobald.*

Chelonian Remains of which the family is undetermined. Unless otherwise stated, the following specimens were collected by Mr. Theobald in the Punjab:—

- E. 145. Shaft of humerus or femur.
- E. 146. Distal end of humerus or femur.
- E. 147. Distal end of humerus or femur; from Sind. *Collected by Mr. Blanford.*
- E. 148. Two specimens of the proximal end of humerus or femur.
- E. 149. Distal half of humerus or femur.
- E. 150. Do. do.
- E. 151. Shaft of humerus or femur.
- E. 152. Do. do.
- E. 190. The imperfect humerus or femur of a large species; from Perim Island. *Captain Searle's Collection.*

Order CROCODILIA.

Suborder EUSUCHIA.

Family CROCODILIDÆ.

Genus CROCODILUS, Linn.

"Syst. Nat." ed. 12, vol. i, p. 359 (1766). As *subgenus*.

Crocodilus sivalensis, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 213 (1886).

- E. 186. Cast of skull. The original, which is one of the types, is from the Siwalik Hills, and is preserved in the British Museum (No. 39798); it is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxviii, fig. 3. *A. S. B. Collection.*

The specific reference of the following specimens is provisional:—

- E. 33, 37, 39, 40. Four associated fragments of the cranium and mandible; from Asnot, Punjab. Noticed in the 'Pal. Ind.,' *op. cit.*, p. 215. *Collected by Mr. Theobald.*
- E. 34. Part of the left premaxilla and maxilla of a large individual; from Burma. Noticed in the 'Pal. Ind.,' *op. cit.*, p. 215. *Collected by Mr. Blanford.*
- E. 153. Hinder part of the cranium; from Jhand, Punjab. *Collected by Mr. Theobald.*
- E. 36. The glenoidal extremity of the left ramus of the mandible; from the Punjab. *Collected by Mr. Theobald.*
- E. 41. Two specimens of the middle portion of the right ramus of the mandible; from the Punjab. *Collected by Mr. Theobald.*
- E. 42. Two specimens of the symphyseal extremity of the mandible; *Fig.* from the Punjab. The larger is figured in the 'Pal. Ind.,' *op. cit.*, pl. xxxix, fig. 4. *Collected by Mr. Theobald.*
- E. 43. Fragment of the mandible; from the Punjab. *Collected by Mr. Theobald.*

Crocodylus palæindicus, Falconer.

"Cat. Foss. Vert. Mus., As. Soc. Beng.," p. 200 (1859).

- E. 31. Cranium; from Perim Island. This specimen is the type, *Fig.* and is figured in the 'Pal. Ind.' ser. 10, vol. iii, pl. xxviii, figs. 2, 2a, xxix, fig. 3.
A. S. B. Collection (No. P.I. 69). Collected by Captain G. Fulljames in 1836-37.
- E. 35. Anterior part of the cranium and mandible, in a much damaged condition; from Perim Island. Noticed in the 'Pal. Ind.' *op. cit.*, p. 218. A. S. B. Collection (No. P. I. 197).
- E. 185. Middle part of the cranium, in very imperfect condition; from Perim Island. Noticed in the 'Pal. Ind.' *op. cit.*, p. 218.
No history.
- E. 32. Middle portion of the cranium; from Perim Island. Noticed in the 'Pal. Ind.' *op. cit.*, p. 218. Collected by Mr. Blanford.
- E. 38. Anterior portion of the right ramus of the mandible; from Perim Island. A. S. B. Collection (No. P.I. 70).

Genus GHARIALIS, Geoffroy.

'Mém. d. Muséum,' vol. xii, p. 97 (1825).—*Gavialis*.

Syn. *Leptorhynchus*, Clift. 'Trans. Geol. Soc.,' ser. 2, vol. ii, pt. 3, p. 375 (1828).

Gharialis gangeticus (Gmelin).

Syn.¹ *Lacerta gangetica*, Gmelin.

"Systema Naturæ," vol. i, pt. 3, p. 1057 (1789).

- E. 22, 184. Casts of two imperfect crania. The originals are from the Siwalik Hills, and are in the British Museum (see 'Pal. Ind.' ser. 10, vol. iii, p. 221). A. S. B. Collection.
- E. 188. The hinder half of a young cranium; from Perim Island. Noticed in the 'Pal. Ind.' *op. cit.*, p. 221.
Captain Searle's Collection.
- E. 189. The occipital portion of a young cranium; from Perim Island. Captain Searle's Collection.
- E. 25. The hinder portion of a half-grown cranium; from the Siwalik Hills. Noticed in the 'Pal. Ind.' *op. cit.*, p. 221.
A. S. B. Collection (No. S. 642).
- E. 13. Part of the palato-maxillary region; from the Siwalik Hills.
By exchange with the Rurki Museum.

¹ For fuller synonymy see 'Pal. Ind.' ser. 10, vol. iii, p. 220 (1886).

- E. 14. The premaxilla of an immature individual; from the Kangra district. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xxx, figs. 4, 4a. Collected by Mr. Theobald, 1874.
- E. 15. The middle portion of the maxillary rostrum; from the Punjab. Collected by Mr. Theobald.
- E. 17. Hinder part of the maxillary rostrum; from the Kangra district. Collected by Mr. Theobald.
- E. 21. The hinder part of the maxillary rostrum of a very large individual, provisionally referred to the present species; from Burma. Noticed in the 'Pal. Ind.,' *op. cit.*, p. 221. Collected by Mr. Blanford.
- E. 18. Fragment of the mandible; from the Punjab. Collected by Mr. Theobald.
- E. 19. Terminal portion of the left half of the mandibular symphysis; from Perim Island. Noticed in the 'Pal. Ind.,' *op. cit.*, p. 221. Collected by Mr. Blanford.
- E. 20. Two specimens of the termination of the mandibular symphysis; from the Punjab. Noticed in the 'Pal. Ind.,' *op. cit.*, p. 221. Collected by Mr. Theobald.
- E. 24. Fragment of the mandible of a young individual; from Perim Island. A. S. B. Collection.
- E. 215. A tooth; from the Punjab. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xxx, fig. 6. Collected by Mr. Theobald.

Gharialis hysudricus, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 222 (1886).

- E. 28. The imperfect termination of a mandibular symphysis, perhaps belonging to this species; from Perim Island. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xxxi, fig. 4. A. S. B. Collection.

Gharialis curvirostris, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 224 (1886).

- E. 26. The greater part of the cranium, in two fragments; from the Laki Hills, Sind. This specimen is the type, and is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxxi, figs. 1, 1a, 2, 2a, 2b. Collected by Mr. Fedden.
- E. 23. The hinder part of the maxillary rostrum of a small individual; from the Laki Hills. Noticed in the 'Pal. Ind.,' *op. cit.*, p. 225. Collected by Mr. Fedden.
- E. 187. The hinder part of a small cranium; from Sind. Noticed in the 'Pal. Ind.,' *op. cit.*, p. 225. Collected by Mr. Fedden.

- E. 16. Middle portion of a maxillary rostrum, provisionally referred to this species; from Sind. *Collected by Mr. Fedden.*
- E. 27. An occipital condyle, provisionally referred to this species; from Sind. *Collected by Mr. Fedden.*

Gharialis leptodus (Falconer and Cautley).

Syn. *Crocodylus (Leptorhynchus) leptodus*, Falc. & Caut.

"Pal. Mem.," vol. i, p. 355 (1868).

- E. 12. Hinder part of the maxillary rostrum; from the Siwalik Hills.
Fig. Figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxxii, figs. 4, 4a.
By exchange with the Rurki Museum.
- E. 11. Hinder part of the mandibular rostrum; from the Punjab.
Fig. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xxxii, figs. 3, 3a.
Collected by Mr. Theobald, 1875.

Gharialis pachyrhynchus, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 227 (1886).

- E. 30. Anterior extremity of the cranial rostrum; from the Laki Hills,
Fig. Sind. This specimen is the type, and is figured in the
'Pal. Ind.,' ser. 10, vol. iii, pl. xxxiii, figs. 1, 1a, 1b.
Collected by Mr. Fedden.
- E. 29. Fragment of the cranial rostrum; from Sehwan, Sind. Figured
Fig. in the 'Pal. Ind.,' *op. cit.*, pl. xxxiii, figs. 2, 2a.
A. S. B. Collection (No. Sc.14). Presented by Dr. Young. Before 1859.
- E. 216. An upper tooth from Sind.
Fig. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xxxiii, fig. 4.
Collected by Mr. Fedden.

Genus **RHAMPHOSUCHUS**, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 229 (1886).

Rhamphosuchus crassidens (Falc. & Caut.)

Syn. *Crocodylus (Leptorhynchus) crassidens*, Falc. & Caut.

'Trans. Geol. Soc.,' ser. 2, vol. v, p. 503, note [1840].

- E. 183. Cast of the rostrum. The original, which is the type, was obtained from the Siwalik Hills, and is preserved in the British Museum (No. 39802); it is figured in the 'Pal. Mem.,' vol. I, pl. xxix, fig. 1, and in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxxiv.
A. S. B. Collection.

- E. 214. The imperfect extremity of the mandibular symphysis; from
Fig. the Siwalik Hills. Figured in the 'Pal. Ind.,' *op. cit.*, pl.
 xxxiii, fig. 3. *A. S. B. Collection (No. S. 652).*
- E. 217. A lower tooth provisionally referred to this species; from the
Fig. Punjab. Figured in the 'Pal. Ind.,' *op. cit.*, pl. xxxiii,
 fig. 5. *Collected by Mr. Theobald.*

Generically undetermined specimens.

- E. 44. Centrum of early cervical vertebra; from the Punjab.
Collected by Mr. Theobald.
- E. 45. A late cervical vertebra; from the Punjab.
Collected by Mr. Theobald.
- E. 46. A late cervical or early dorsal vertebra; from Sind.
Collected by Mr. Fedden.
- E. 47. A late dorsal vertebra; from the Siwalik Hills.
A. S. B. Collection.
- E. 48. A late dorsal vertebra; from Sind. *Collected by Mr. Fedden.*
- E. 49. A late dorsal vertebra; from Lehri, Punjab.
Collected by Mr. Theobald.
- E. 50. A late dorsal vertebra; from Burma.
Collected by Mr. Blanford.
- E. 51. A late dorsal vertebra; from the Punjab.
Collected by Mr. Theobald.
- E. 52. A late dorsal vertebra; from the Punjab.
Collected by Mr. Theobald.
- E. 53. A late dorsal vertebra; from the Punjab.
Collected by Mr. Theobald.
- E. 54. A lumbar vertebra; from Sehwan, Sind. This specimen prob-
 ably belongs to *G. pachyrhynchus*. *A. S. B. Collection.*
(No. Sc.7.) Presented by Dr. Young. Before 1859.
- E. 55. A lumbar vertebra; from Paling, Punjab.
Collected by Mr. Wynne.
- E. 56. A lumbar vertebra; from Nila, Punjab.
Collected by Mr. Theobald.
- E. 57. An early caudal vertebra; from Sind.
Collected by Mr. Blanford.
- E. 58. A late caudal vertebra; from Asnot, Punjab.
Collected by Mr. Theobald.
- E. 59. A dorsal vertebra; from Asnot. *Collected by Mr. Theobald.*

- E. 60-61. Four associated cervical vertebræ; from the Bokrála range, near Jhelam. These specimens were obtained from beds only a little above the nummulitics.
Collected by Mr. Theobald.
- E. 62. Two late caudal vertebræ, associated with the preceding.
Collected by Mr. Theobald.
- E. 63. The two extremities of a left femur; from Jabi, Punjab.
Collected by Mr. Theobald.
- E. 64. Several phalangeals; from the Punjab.
Collected by Mr. Theobald.
- E. 154. The distal portion of a humerus; from Sind.
Collected by Mr. Fedden.
- E. 175. The distal end of a metacarpal; from Asnot, Punjab.
Collected by Mr. Fedden.
- E. 65. Two dorsal scutes; from Sind.
Collected by Mr. Fedden.
- E. 66-68. Six dorsal scutes; from the Punjab.
Collected by Mr. Theobald.
- E. 69. Dorsal scutes; from Burma.
A. S. B. Collection.
- E. 70. Dorsal scutes; from Sind.
Collected by Mr. Fedden.
- E. 71-73. Dorsal scutes; from the Punjab.
Collected by Mr. Theobald.
- E. 74. A nuchal scute; from the Punjab.
Collected by Mr. Theobald.
- E. 75. Ventral scutes; from the Punjab.
Collected by Mr. Theobald.

Order OPHIDIA.

Family PYTHONIDÆ.

Python molurus (Linn.)

Syn. *Coluber molurus*, Linn.

"Syst. Nat.," ed. 12, vol. i, p. 225 (1766).

- E. 206. An early dorsal vertebra; from the Punjab. Figured in the Fig. 'Pal. Ind.,' ser., 10, vol. iii, pl. xxxv, fig. 4.
Collected by Mr. Theobald.

The following specimens may be specifically distinct:—

- E. 205. Several dorsal and caudal vertebræ; from the Punjab. Three
Fig. of these specimens are figured in the 'Pal. Ind.,' *op.*
cit., pl. xxxv, figs. 5, 6, 7, 7a. *Collected by Mr. Theobald.*
- E. 205a. A dorsal vertebra; from Sind. Noticed in the 'Pal. Ind.,'
op. cit., p. 238. *Collected by Mr. Fedden.*

Class PISCES.

Subclass PALÆICHTHYES.

Order CHONDROPTERYGII.

Suborder PLAGIOSTOMATA.

Section SELACHOEDEI.

Family CARCHARIIDÆ.

Genus CARCHARIAS, Linn.

"Syst. Nat.," ed. 12, vol. i, p. 400 (1766).

Carcharias, sp.

'Pal. Ind.,' ser. 10, vol. iii, p. 242 (1866).

- E. 160. Several upper teeth; from the Punjab. Two are figured in
Fig. the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxxv, figs. 12, 13.
Collected by Mr. Theobald.

- E. 160a. Several lower teeth; from the Punjab. Two are figured
Fig. in the 'Pal. Ind.,' *op. cit.*, pl. xxxv, figs. 14, 15.
Collected by Mr. Theobald.

Family LAMNIDÆ.

Genus CARCHARODON, A. Smith.

In Müller and Henle's "Syst. Peschr. d. Plagiostomen," p. 70 (1841).

Carcharodon, sp.

'Pal. Ind.,' ser. 10, vol. iii, p. 243 (1886).

- E. 161. A tooth; from Pegu, Burma. Figured in the 'Pal. Ind.,' ser. Fig. 10, vol. iii, fig. xxxv, fig. 8. *Collected by Mr. Blanford.*

Generically undetermined specimens.

- E. 218. Two vertebræ; from Perim Island. One specimen is figured Fig. in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxxvii, figs. 9, 9a. *Collected by Mr. Fedden.*

Subclass *TELEOSTEI*.

Order PHYSOSTOMI.

Family SILURIDÆ.

Subfamily HOMALOPTERÆ.

Genus **CLARIAS**, Gronovius.

"Zoophylaceum Gronovianum," p. 100 (1763-81).

Clarias, ? sp.

- E. 159. Part of a much crushed skull, provisionally referred to this genus; from the Punjab. This specimen may perhaps belong to *C. falconeri* ('Pal. Ind.,' ser. 10, vol. iii, p. 247 [1886]), but is too imperfect to admit of determination. *Collected by Mr. Theobald.*

Subfamily PROTEROPTERÆ.

Genus **CHRYSICTHYS**, Bleeker.

"Ichth. Archip. Prodr. Siluroid," p. 60 (1858).

ChrysiCThys (?) theobaldi, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 249 (1886).

- E. 158. The hinder part of the cranium; from the Punjab. This specimen is the type, and is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxxvii, fig. 4. *Collected by Mr. Theobald.*

Genus **RITA**, Bleeker.

"Ichth. Archip. Prodr. Siluroid," p. 60 (1858).

Rita grandiscutata, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. 251 (1886).

- E. 157. The basal bone of the dorsal fin. This specimen is the type,
Fig. and is figured in the 'Pal. Ind.,' *op. cit.*, pl. xxxvii, fig. 3.
Collected by Mr. Wynne.

Genus **ARIUS**, Cuv. and Val.

"Hist. Nat. de Poissons," vol. xv, p. 55 (1840).

Arius, sp. *a*.

'Pal. Ind.,' ser. 10, vol. iii, p. 252 (1886).

- E. 219. Cast of the hinder part of the cranium. The original, which is the type, is from the Siwalik Hills, and is preserved in the British Museum (No. 16402, a); it is figured in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxxvi, fig. 2. *A. S. B. Collection.*

Arius (?) sp. *b*.

'Rec. Geol. Surv. Ind.,' vol. xiv, p. 240 (1881.)

- E. 164. The right palatine; from the Punjab. This specimen is the type, and is figured in the 'Rec. Geol. Surv. Ind.,' vol. xiv, p. 240, and in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxxvii, fig. 7. *Collected by Mr. Theobald.*
- E. 162. The imperfect right palatine; from the Laki Hills, Sind. *Fig.* Figured in the 'Pal. Ind.,' *op. cit.*, pl. xxxvii, fig. 8. *Collected by Mr. Fedden.*

Genus **BAGARIUS**, Bleeker.

'Verh. Batav. Genoot.,' vol. xxxv (Beng. and Hind.), p. 121 (1853).

Bagarius yarrelli, Sykes.

Syn. ¹ *Bagrus yarrelli*, Sykes.

'Trans. Zool. Soc.,' vol. ii, p. 370 (1841).

- E. 155. The pre-orbital portion of the skull; from Nahan, Siwalik Hills. This specimen is figured in the 'Journ. As Soc.,'

¹ A full synonymy is given in the 'Pal. Ind.,' ser. 10, vol. iii, p. 254.

Beng.,' vol. vi, p. 538, pl. xxxi (1837), in the 'Calcutta Journ. Nat. Hist.,' vol. iv, p. 83, pl. ix (1844), and in the 'Pal. Ind.,' ser. 10, vol. iii, pl. xxxvi, fig. 1 (1886).

A. S. B. Collection. Presented by Col. Colvin.

- E. 156. Part of the humeral arch associated with the preceding specimen. *A. S. B. Collection. Presented by Col. Colvin.*

Generically undetermined specimens.

- E. 202. Two fragments of fin-spines. The larger is figured in the Fig. 'Pal. Ind.,' ser. 10, vol. iii, pl. xxxvii, figs. 10, 10a.

Collected by Mr. Theobald.

- E. 129. A specimen provisionally regarded as part of the humeral arch of a siluroid allied to *Auchenoglanis*; from Sind. Figured in the 'Pal. Ind.,' ser. 10, vol. iii, p. 206 (woodcut) as part of first left costal scute of a *Trionyx*, but provisionally re-determined¹ on page 255 of the same volume.

Collected by Mr. Blanford.

- E. 130. A specimen which may perhaps belong to a form allied to the preceding; from the Punjab. Noticed in the 'Pal. Ind.,' *op. cit.*, pp. 206, 255.

Collected by Mr. Theobald.

- E. 191. Several associated dorsal vertebræ; from Sind.

Collected by Mr. Fedden.

- E. 197-198. Vertebræ; from the Punjab. *Collected by Mr. Theobald.*

- E. 199. Two vertebræ; from the Punjab. *Collected by Mr. Theobald.*

- E. 200. The basi-cranial axis; from the Punjab.

Collected by Mr. Theobald.

- E. 201. The basi-cranial axis; from Sind. *Collected by Mr. Fedden.*

- E. 203. Fragment of a skull (?); from the Punjab.

Collected by Mr. Theobald.

Specimens of which the ordinal position is not determined.

- E. 192. A vertebra; from Perim Island.

A. S. B. Collection (No. P.184).

- E. 193. A vertebra; from Sind.

Collected by Mr. Blanford.

- E. 194. A vertebra; from the Salt-range, Punjab.

Collected by Mr. Theobald.

- E. 195-196. Two vertebræ; from Sind.

Collected by Mr. Fedden.

¹ The writer has not had an opportunity of examining this and the next specimen since their redetermination.

Specimen of which the affinity is undetermined.

- E. 6. A** specimen found associated with the tibio-tarsus of *Struthio asiaticus* (No. E. 5, page 4), and described (with the latter) as an avian sternum under the name of *Megaloscelornis sivalensis* in 'Rec. Geol. Surv. Ind.,' vol. xii, p. 55 (1879). It has been suggested that the present specimen is part of the shell of a chelonian, but the writer has been unable to satisfy himself that it is so. *A. S. B. Collection.*

ADDENDA TO PART I.

Palæopithecus (p. 1).

This genus is synonymous with *Trogloodytes* ('Pal. Ind.,' ser. 10, vol. iv, pt. 1).

Hipparion antilopinum (p. 57).

It has been suggested (see 'Pal. Ind.,' ser. 10, vol. iii, p. xiii) that Nos. C. 138, 139, and probably the other specimens from the Punjab, may be specifically distinct from this species.

Mastodon latidens (p. 94).

- A. 128.**—Cast of the third left upper true molar. The original is from near Bruni, Borneo; and is figured in the 'Proc. Zool. Soc.' 1885, pl. xlviii, and (on a reduced scale in the 'Pal. Ind.,' ser. 10, vol. iii, p. xvi (woodcut). *Purchased, 1886.*
- A. 64.**—This specimen may belong to *Elephas clifti*; see "Cat. Foss. Mamm. Brit. Mus.," pt. iv.

Mastodon cautleyi, Lydekker.

'Pal. Ind.,' ser. 10, vol. iii, p. xiv (1886).

- A. 437.**—This specimen (p. 97) is one of the types of this provisional species.

Mastodon perimensis (pp. 97—99).

Nos. A. 48, 46, 54 (with which some of the other Punjab specimens may be associated) will be made the types of a provisional new species in Part iv of the Cat. Foss. Mamm. British Mus.

Mastodon pandionis (p. 99).

Nos. A. 26, 34, 35 (pp. 103-104) are provisionally referred to this species (see 'Pal. Ind.,' ser. 10, vol. iii, p. xix). If this be correct, Nos. A. 50, 68 (p. 101) must be redetermined.

CORRIGENDA TO SAME.

Page 17.—The authority for the name *Bubalus acuticornis* is Rüttemeyer (*ex* Falc. and Caut. MS.) 'Denkschr. schw. Ges. nat.,' vol. xxii, art. 3, p. 29 (1867).

Page 65.—Above *Rhinoceros platyrhinus*, add *B. Atelodus*.

Page 90.—The authority for the name *Mastodon sivalensis* is Cautley, 'Journ. As. Soc., Ben.,' vol. v, p. 294 (1836).

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CATALOGUE

OF THE REMAINS OF

PLEISTOCENE AND PRE-HISTORIC
VERTEBRATA.

CATALOGUE
OF THE REMAINS OF
PLEISTOCENE AND PRE-HISTORIC
VERTEBRATA,

CONTAINED IN
THE GEOLOGICAL DEPARTMENT
OF
THE INDIAN MUSEUM,
CALCUTTA.

BY
RICHARD LYDEKKER, B.A., F.G.S., ETC.

CALCUTTA :
PRINTED BY THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.
1886.

INTRODUCTION.

Extent.—The specimens noticed in this Catalogue comprise the more important remains of Vertebrates from pleistocene and prehistoric Indian deposits (exclusive of the Karnul cavern specimens) contained in the Indian Museum.

Origin of the Collection.—The collection comprises specimens from deposits in several parts of India, which may be classified as follows :—

- 1.—The pleistocene of the Narbada valley. The remains from these beds may be divided into three series. The first series which belonged to the Asiatic Society of Bengal and was transferred to the Indian Museum in 1875, was mainly collected by the late Dr. Spilsbury previously to 1849; all these specimens have been entered in Falconer and Walker's Catalogue of the Asiatic Society's Museum. The second series was collected by Mr. W. Theobald, late Deputy Superintendent of the Survey, in 1858, by whom it was noticed in the 2nd volume of the 'Memoirs.' The third series was collected by Mr. C. Hacket, of the Survey, in 1873.
- 2.—The pleistocene of the Jamna valley. A small collection from these deposits (which appear equivalent to those of the Narbada) was presented to the Asiatic Society of Bengal by the late Sergeant E. Dean, and transferred, with the other Asiatic Society's specimens, to the Museum. Another small collection, made by Mr. J. Cockburn of the Opium Department, near Banda, was presented by him to the Museum in 1881; it is not improbable that these specimens are from deposits of somewhat later age than the preceding.
- 3.—The pleistocene of the Pemganga valley, in the Central Provinces. Mr. F. Fedden, of the Survey, obtained a small series of specimens from these deposits (which are probably not far removed in age from the Narbada beds), in 1869-72.

- 4.—The pleistocene of the Kistna valley, Deccan. The few specimens in the Museum from these deposits were obtained in 1871 by Mr. R. B. Foote, Deputy Superintendent of the Survey.
- 5.—From the pleistocene of Kattiawar there are but very few specimens, of which the history is unknown.
- 6.—From deposits near Goalpára, in Assam, which are probably of prehistoric age, three specimens were presented to the Museum before 1874 by a Mr. E. N. de Garnier.
- 7.—From a turbary in Madras Mr. Foote obtained a few bones some time previous to 1874.¹
- 8.—Several teeth of *Elephas* are in the Museum which are stated to have been obtained from the Irawadi valley in, Burma.

Abbreviations.—The abbreviations used in this Catalogue are the same as in the Catalogue of Siwalik Vertebrata.

¹ Owing to the ravages of white-ants the labels for these specimens were destroyed, and their precise locality is therefore lost.

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CATALOGUE
OF
PLEISTOCENE AND PRE-HISTORIC
VERTEBRATA.

Class **MAMMALIA**.

Order PRIMATES.

Suborder *ANTHROPOIDEA*.

Family CERCOPITHECIDÆ.

Genus **MACACUS**, Cuv. and Geoffr.

'Magazin Encyclopédique,' 1795 (*teste, Geoffr*). *Macaque*.

Macacus, sp.

- F. 122.** The left ramus of the mandible; from Madras. This specimen not improbably belongs to *M. sinicus* (Linn.).

Collected by Mr. Foote.

- F. 123.** Fragment of the left maxilla and ramus of the mandible; from Goalpára, Assam. These specimens may, perhaps, be referable to *M. rhesus* (Audebert).

Presented by Mr. E. N. de Garnier.

Order CARNIVORA.

Family FELIDÆ.

Genus **FELIS**, Linn.

"Syst. Nat." ed. 12, vol. i, p. 60 (1766).

Felis tigris, Linn.

"Syst. Nat." ed. 12, vol. i, p. 60 (1766).

- F. 87.** A right scapho-lunar; provisionally referred to this species, from the Jamna beds at Banda. Noticed in the 'Records,' vol. xv, p. 33.

Presented by Mr. J. Cockburn, 1881.

UNGULATA.

Family URSIDÆ.

Genus **URSUS**, Linn.

"Syst. Nat." ed. 12, vol. i, p. 69 (1766).

Ursus namadicus, Falc. and Caut.

"Pal. Mem." vol. i, p. 552 (1868).

- F. 106.** Cast of the right maxilla, containing the last three cheek-teeth and the broken base of pm. 3. The original, which is the type, is from the Narbada beds, and is preserved in the British Museum (No. 39720); it is figured in the 'Pal. Ind.,' ser. 10, vol. ii, pl. xxviii, fig. 3. *Purchased.*
- F. 105.** A damaged canine, provisionally referred to this species; from the Narbada beds. Noticed in the 'Pal. Ind.,' ser. 10, vol. ii, p. 218. *Collected by Mr. Hacket.*

Order RODENTIA.

Section MYOMORPHA.

Family MURIDÆ.

Genus **MUS**, Linn.

"Syst. Nat." ed. 12, vol. i, p. 79 (1766).

Mus, (?) sp.

- F. 107.** Mass of conglomerate from the Narbada beds containing incisors of a large species of *Mus* or allied genus.
(P) *Collected by Mr. Theobald, 1858.*

Order UNGULATA.

Suborder **ARTIODACTYLA**.

Family BOVIDÆ.

Genus **BOS**, Linn.

"Syst. Nat." ed. 12, vol. I, p. 98 (1766).

Bos namadicus, Falconer.

"Cat. Foss. Vert. Mus. As. Soc. Beng." p. 232 (1859).

- F. 155.** The nearly complete cranium; from the Narbada beds,
Fig. Moar Domur. Noticed in the 'Memoirs, vol. ii, pp. 292.

294, and figured in the 'Pal. Ind.' ser. 10, vol. i, pls. xi, xvi, fig. 1.
Collected by Mr. Theobald, 1858.

F. 156. The frontlet; from the Narbada beds.

Collected by Mr. Hacket.

F. 157-160. Four imperfect frontlets; from the Narbada beds.

Collected by Mr. Hacket.

F. 183. The imperfect cranium, with the horn-cores broken off; from the Narbada beds. Described and figured in the 'Journ. As. Soc. Beng.' vol. xiii, p. 765, pl. II, fig. 38.

A. S. B. Collection (No. N. 33). Dr. Spilsbury.

F. 184. The calvarium, with part of the left horn-core; from the Narbada beds.

A. S. B. Collection (No. N. 34).

F. 185. The nearly complete cranium, wanting the horn-cores; from the Narbada beds. Noticed in the 'Journ. As. Soc. Beng.' vol. viii, p. 951.

A. S. B. Collection (No. N. 35).

F. 186. Fragment of a cranium perhaps belonging to this species, and to the same individual as *No. F. 189.*

A. S. B. Collection (No. N. 47).

F. 189. Fragment of the left horn-core; from the Narbada beds of Jhansi ghat.

A. S. B. Collection (No. N. 31). Dr. Spilsbury.

F. 161-162. Two imperfect horn-cores; from the Narbada beds.

Collected by Mr. Hacket.

F. 57. Part of the right maxilla, with the last four cheek-teeth; from the Narbada beds.

A. S. B. Collection (No. N. 26). Dr. Spilsbury.

F. 58. Part of the left maxilla, with the last four cheek-teeth; from the Narbada beds.

A. S. B. Collection (No. N. 25). Dr. Spilsbury.

F. 59. Two maxillæ; from the Ponganga beds.

Collected by Mr. Fedden.

F. 61. The right maxilla; from the Narbada beds.

Collected by Mr. Theobald, 1858.

The following specimens are provisionally referred to the present species:—

F. 60. Part of the left maxilla; from near Gokak, Kistna valley, Belgaum district, Deccan. Noticed in the 'Pal. Ind.' ser. 10, vol. i, p. 16.

Collected by Mr. Foote.

F. 62. The right ramus of the mandible; from the Narbada beds.

Collected by Mr. Theobald, 1858.

F. 63. Part of the left ramus of the mandible; from the Narbada beds.

Collected by Mr. Theobald, 1858.

- F. 64.** Part of the left ramus of the mandible; from the Narbada beds.
No history.
- F. 65.** The greater part of the left ramus of the mandible; locality unknown.
Collected by Mr. Blanford.
- F. 66.** Part of the left ramus of the mandible; from the Narbada beds.
Collected by Mr. Hacket.
- F. 67.** Part of the left ramus of the mandible; from the Penganga beds.
Collected by Mr. Fedden.

The majority of the following specimens belong either to the present species or to Bubalus buffelus; they were obtained from the Narbada beds, and, unless otherwise stated, were collected by Mr. Theobald in 1858.

- F. 40.** The right scapula.
- F. 41.** The left scapula.
- F. 13.** The distal extremity of a humerus.
- F. 42.** A radius. *Collected by Mr. Hacket.*
- F. 43.** An ulna.
- F. 44.** The right metacarpus.
- F. 45. 47.** Several first phalangeals. *Collected by Mr. Hacket.*
- F. 46.** Several second phalangeals. *Collected by Mr. Hacket.*
- F. 48.** A femur.
- F. 49.** The head of a femur.
- F. 50.** The left tibia.
- F. 51.** A metatarsus.
- F. 52.** A calcaneum. *Collected by Mr. Hacket.*
- F. 53.** An astragalus.
- F. 54.** An astragalus. *Collected by Mr. Hacket.*
- F. 30.** The atlas vertebra.
- F. 31.** The atlas vertebra.
- F. 32.** The axis vertebra.
- F. 33.** The fifth cervical vertebra.
- F. 34.** The sixth cervical vertebra.
- F. 35.** An early dorsal vertebra.
- F. 36.** A dorsal vertebra.

- F. 37. A dorsal vertebra.
 F. 38. A dorsal vertebra.
 F. 39. A lumbar vertebra.

The following specimens are not specifically determined :—

- F. 188a. A very large horn-core, with a subcircular section; from the Narbada beds. Noticed by Theobald in the 'Memoirs,' vol. ii, p. 294 (1860), and named *Bos falconerianus*.
A. S. B. Collection (No. N. 30). Dr. Spilsbury.
- F. 191. Facial part of a cranium; from the Narbada beds.
A. S. B. Collection (No. N. 35).
- F. 192. Fragment of the facial part of a cranium; from the Narbada beds.
A. S. B. Collection (No. N. 36).
- F. 163. A cranium¹; from the Narbada beds.
Collected by Mr. Theobald, 1858.
- F. 164. A cranium; from the Narbada beds.
Collected by Mr. Theobald, 1858.
- F. 165. The facial part of a cranium; from the Narbada beds.
Collected by Mr. Theobald, 1858.
- F. 166, 167. Two imperfect horn-cores; from the Narbada beds.
Collected by Mr. Theobald, 1858.
- F. 68. A third right lower true molar; from Kattiawar. *No history.*
- F. 126. Several cheek-teeth and imperfect bones; from the Jamna beds at Banda.
Presented by Mr. J. Cockburn, 1881.
- F. 130. A fourth cervical vertebra, provisionally referred to this genus; from the Jamna beds. *A. S. B. Collection. Sergeant Dean.*

Genus **BUBALUS**, H. Smith.

In Griffith's "Animal Kingdom," vol. v, p. 371 (1827).

Bubalus buffelus (Blumenbach).

"Handbuch. d. Naturgeschichte," 10th ed., p. 121 (1821).

var. *palæindicus* (Falconer).

"Cat. Foss. Vert. Mus. As. Soc. Beng." p. 230 (1859).

- F. 150. The cranium of an old male, wanting the greater part of the Fig. horn-cores; from the Narbada beds. Figured in the 'Pal. Ind.' ser. 10, vol. i, pls. xvii, fig. 2, xix.
Collected by Mr. Hackett.

¹ This, and the following specimen, require careful examination and comparison; one of them apparently indicates a horn-less form.

Family CERVIDÆ.

Genus **CERVUS**, Linn.

"Syst. Nat." ed. 12, vol. i, p. 92 (1766).

*A. Rusine Group.***Cervus aristotelis**, Cuvier.

"Ossements Fossiles," 2nd ed., vol. iv, p. 503 (1823).

Regarding the specific reference of the Narbada form, see "Cat. Foss. Mamm., Brit. Mus." pt. ii, p. 103 (1885).

F. 85. Pedicle of a right antler indistinguishable from that of the Sambur; from the Narbada beds. *Collected by Mr. Hacket.*

F. 86. Pedicle of a similar left antler; from the Narbada beds. *Collected by Mr. Hacket.*

*B. Rucervine Group.***Cervus**, sp. (? *duvaucelli*, Cuv.)

'Rec. Geol. Surv. Ind.' vol. xvi, p. 79 (1883).

All the following specimens were obtained from the Narbada beds:—

F. 79. An upper true molar. *Collected by Mr. Hacket.*

F. 80. Base of right antler. *Collected by Mr. Theobald, 1858.*

F. 81. Left antler at bifurcation. *Collected by Mr. Theobald, 1858.*

F. 82. A very similar specimen. *Collected by Mr. Hacket.*

C. Specimens of which the affinity is uncertain.

All the following specimens were obtained from the Narbada beds; and, unless otherwise stated, were collected by Mr. Hacket. The generic determination of some of the limb-bones is provisional:—

F. 83. Part of an antler.

F. 84. Part of an antler.

F. 89. A radius and ulna.

F. 90. A metatarsus.

- F. 91.** A metatarsus.
F. 92. A metatarsus.
F. 93. A calcaneum. *Collected by Mr. Theobald,, 1858.*
F. 94. A humerus.
F. 95. A tarsus.
F. 96. A cervical vertebra.
F. 97. The axis vertebra.
F. 98. A first phalangeal.
F. 99. A second phalangeal.

Family SUIDÆ.

Genus **SUS**, Linn.

"Syst. Nat." ed. 12, vol. i, p. 102 (1766).

Sus cristatus, Wagner.

'Münch. gelehrt. Anzeig.' vol. ix, p. 535 (1839).

- F. 115.** Part of the right ramus of a mandible; from Madras. **Fig.** Figured in the 'Pal. Ind.' ser. 10, vol. iv, pl. ix, fig. 5.
Collected by Mr. Foote.

Family HIPPOPOTAMIDÆ.

Genus **HIPPOPOTAMUS**, Linn.

"Syst. Nat." ed. 12, vol. i, p. 101 (1766).

Hippopotamus palæindicus, Falc. and Caut.

"Fauna Antiqua Sivalensis," pt. 7, pl. lvii (1847).

Syn. *Tetraprotodon palæindicus*, Falconer.

- F. 149.** The symphysis of the mandible; from the Narbada beds.
Fig. Figured in the 'Pal. Ind.' ser. 10, vol. iii, pl. vi, fig. 2.
Collected by Mr. Hacket.
- F. 182.** Part of the mandibular symphysis, showing longitudinal section of the canines and the two larger incisors; from the Narbada beds. Described and figured in the 'Journ. As. Soc. Beng.' vol. x, p. 626, pl. F. figs. c. d.
A. S. B. Collection (No. N. 17). Dr. Spilsbury.

- F. 140.** Cast of a portion of the mandibular symphysis, showing the alveoli of the canines and larger incisors. The original is from the Narbada beds, and is figured in the 'F. A. S.' pl. vii, figs. 5, 5a. *A. S. B. Collection.*

The following specimens, which, with one exception, were obtained from the Narbada beds, belong either to this or the next species :—

- F. 181.** The cranium, imperfect anteriorly, and showing the three true molars of both sides and the alveolus of the left pm. 4; from Narsingpur, Narbada valley. Noticed in the 'Journ. As. Soc. Beng.', vol. xix, p. 489. *A. S. B. Collection (No. N. 16). Dr. Spilsbury.*
- F. 141.** The two rami of the mandible. *Collected by Mr. Theobald, 1858.*
- F. 142.** Portions of the two rami of the mandible. *Collected by Mr. Theobald, 1858.*
- F. 143.** Fragment of the right ramus of the mandible containing m 3. *Collected by Mr. Hacket.*
- F. 144.** Part of the left ramus of the mandible without the teeth. *A. S. B. Collection.*
- F. 145.** Head of humerus. *Collected by Mr. Theobald, 1858.*
- F. 17.** Part of a canine. *Collected by Mr. Hacket.*
- F. 18.** An imperfect canine; from the Penganga beds. *Collected by Mr. Fedden.*
- F. 19.** An upper canine. *Collected by Mr. Theobald, 1858.*
- F. 16.** The right scapula. *Collected by Mr. Theobald, 1858.*
- F. 12.** The head of the left humerus. *Collected by Mr. Theobald, 1858.*
- F. 73.** An ulna. *Collected by Mr. Hacket.*
- F. 14.** The distal extremity of the left femur. *Collected by Mr. Theobald, 1858.*
- F. 15.** The proximal end of the right femur. *Collected by Mr. Theobald, 1858.*
- F. 146.** The condyles of a femur. *Same history.*
- F. 22.** The distal end of a tibia. *Same history.*
- F. 72.** A tibia and fibula. *Collected by Mr. Hacket.*
- F. 21.** The right astragalus. *Collected by Mr. Hacket.*
- F. 20.** A first phalangeal. *Collected by Mr. Theobald, 1858.*
- F. 27.** The last cervical vertebra. *Collected by Mr. Hacket.*
- F. 26.** A dorsal vertebra. *Collected by Mr. Theobald, 1858.*

- F. 25. A late dorsal vertebra. *Same history.*
 F. 24. A late lumbar vertebra. *Same history.*
 F. 23. The last lumbar vertebra. *Same history.*

Hippopotamus namadicus, Falc. and Caut.

"Fauna Antiqua Sivalensis," pt. 7, pl. lvii, 1847.

Syn. *Hexaprotodon namadicus*, Falconer.

- F. 147. The symphysis of the mandible, showing the broken bases of the incisors; from the Narbada beds. Noticed in the 'Pal. Ind.' ser. 10, vol. iii, p. 43. *Collected by Mr. Theobald.*

Suborder *PERISSODACTYLA*.

Family EQUIDÆ.

Genus **EQUUS**, Linn.

"Syst. Nat." ed. 12, vol. i, p. 100 (1766).

Equus namadicus, Falc. and Caut.

Syn. *E. palæonus*, Falc. and Caut.

"Fauna Antiqua Sivalensis," pt. 9, pl. lxxxi (1849).

- F. 3. Part of the right maxilla of an immature individual, showing *Fig. pm. 1* (sometimes called *mm. 1*), *pm. 2 in alveolo*, *mm. 2*, *mm. 3*, *mm. 4*, and *m. 1*; from the Narbada beds. Figured in the 'Pal. Ind.' ser. 10, vol. ii, pl. xv, fig. 2.

Collected by Mr. Hacket.

- F. 2. Part of the left maxilla containing the four premolars, *m. 1*, and *Fig. part of m. 2*; from the Narbada beds. Figured in the 'Pal. Ind.' *op. cit.*, pl. xv, fig. 3.

Collected by Mr. Hacket.

The specific reference of the following specimens is provisional:—

- F. 6. A right upper cheek-tooth; from the Narbada beds.

Collected by Mr. Hacket.

- F. 4. Part of the right ramus of the mandible, containing two cheek-teeth; probably from the Narbada beds.

A. S. B. Collection (No. N. 66).

- F. 5. A lower molar; from the Narbada beds.

Collected by Mr. Hacket.

- F. 7.** A lower molar ; from the Narbada beds.
Collected by Mr. Hacket.
- F. 1.** A third metacarpal ; from the Narbada beds.
Collected by Mr. Hacket.
- F. 8.** An astragalus ; from the Narbada beds.
Collected by Mr. Hacket.
- F. 74.** The atlas vertebra ; from the Narbada beds.
Collected by Mr. Hacket.
- F. 71.** A cervical vertebra ; from the Narbada beds.
Collected by Mr. Hacket.
- F. 124.** Several cheek-teeth, a third metacarpal, and calcaneum ; from the Jamna beds, near Banda.
Presented by Mr. J. Cockburn, 1881.

Family RHINOCEROTIDÆ.

Genus RHINOCEROS, Linn.

"Syst. Nat." ed. 12, vol. i, p. 104 (1766).

A. Rhinoceros proper.

Rhinoceros unicornis, Linn.

"Syst. Nat." ed. 12, vol. i, p. 104 (1766).

Syn. *R. indicus*, Cuv.

- F. 9.** The third left upper true molar ; from the Narbada. Figured
Fig. in the 'Pal. Ind.' ser. 10, vol. i, pl. iv, fig. 5.
(?) Collected by Mr. Theobald, 1858.
- F. 10.** The second right upper true molar, with the crown cut and
Fig. polished ; from the Narbada. Figured in the 'Pal. Ind.'
op. cit., pl. 4, fig. 6. *(?) Collected by Mr. Theobald, 1858.*
- F. 114.** The third right upper true molar ; from Madras. Figured in
Fig. the 'Pal. Ind.' ser. 10, vol. iv, pl. x. *Collected by Mr. Foote.*

B. Atelodus.

Rhinoceros deccanensis, Foote.

'Pal. Ind.' ser. 10, vol. i, p. 1 (1874).

- F. 168.** The left maxilla and the imperfect mandible ; from near
Fig. Gokak, Kistna valley, Belgaum district, Deccan. These
specimens are the types, and are figured in the 'Pal. Ind.'
ser. 10, vol. i, pls. i—iii. *Collected by Mr. Foote, 1871.*

C. Specifically undetermined specimens.

- F. 113** A right lower true molar; from Goalpára, Assam.
Presented by Mr. E. N. de Garnier.
- F. 125.** Imperfect lower molars and a canine; from the Jamna beds near Banda; noticed in the 'Records,' vol. xv, p. 33.
Presented by Mr. J. Cockburn, 1881.
- F. 11.** A right humerus; from the Narbada beds. Noticed in the 'Pal. Ind.' ser. 10, vol. i, p. ix, and provisionally named *R. namadicus*.
Collected by Mr. Theobald, 1858.
- F. 102.** The left calcaneum; from the Narbada beds.
Collected by Mr. Hacket.
- F. 103.** A second phalangeal; from the Narbada beds.
Collected by Mr. Hacket.
- F. 104.** A metapodial; from the Narbada beds.
Collected by Mr. Hacket.

Suborder *PROBOSCIDEA*.Family *ELEPHANTIDÆ*.Genus *ELEPHAS*, Linn.

"Syst. Nat." ed. 12, vol. i, p. 48 (1766).

A. Elephas proper (Euelephas, Falc.).

Elephas indicus, Linn.

"Syst. Nat." ed. 12, vol. i, p. 48 (1766).

- F. 148.** The second right lower true molar; from Assam.
A. S. B. Collection.

Elephas namadicus, Falc. and Caut.

"Fauna Antiqua Sivalensis," pt. 2, pl. xiii (1846).

- F. 171.** Cast of the cranium. The original is figured in the "Fauna Antiqua Sivalensis," pls. xii, A, B, and is preserved in the British Museum; it was obtained from the Narbada beds.
No history.
- F. 136, 137.** Two imperfect crania; from the Narbada beds.
Collected by Mr. Hacket.
- F. 180.** Palate; from the Narbada beds of Narsingpur.
A. S. B. Collection (No. N. 42). Dr. Spilsbury.

- F. 172, 173.** Two imperfect crania ; from the Narbada beds of Patrora. These specimens are noticed in the 'Memoirs,' vol. ii, p. 292, and in the 'Pal. Ind.' ser. 10, vol. i, p. 281, and are important since they both exhibit the supra-orbital ridge characteristic of No. F. 171.

Collected by Mr. Theobald, 1858.

- E. 175.** An incomplete cranium ; from the Narbada beds of Birman Ghat. *A. S. B. Collection (No. N. 40). Dr. Spilsbury.*

- F. 176.** Facial part of cranium with m. 2 and m. 3 ; from the Narbada beds of Hoshangabad.

A. S. B. Collection (No. N. 2). Dr. Spilsbury.

- F. 132.** A right upper true molar ; from the Narbada beds.

Collected by Mr. Theobald, 1858.

- F. 131.** Cast of the left ramus of the mandible containing mm 4. The original is from the Narbada beds, and is figured in the "Fauna Antiqua Sivalensis," pl. xii c, figs. 2, 2a ; it is preserved in the British Museum. *A. S. B. Collection.*

- F. 133.** Part of the right ramus of the mandible, showing mm. 3 and mm 4 ; from the Narbada beds.

Collected by Mr. Theobald, 1858.

- F. 116—120.** Five molar teeth provisionally referred to this species ; from the Irawadi valley, Burma. *No history.*

- F. 177.** Part of the left ramus of the mandible, showing part of (?) m. 3 ; from the Narbada beds.

A. S. B. Collection (No. N. 3). Dr. Spilsbury.

- F. 178.** Part of the right ramus of the mandible, containing a part of m. 3 ; from the Narbada beds.

A. S. B. Collection (No. N. 4).

- F. 179.** The nearly complete mandible, showing portions of m. 3 on both sides ; from the Narbada beds.

A. S. B. Collection (No. N. 6).

- F. 134.** The right ramus of the mandible with m. 3 ; from the Narbada beds.

Collected by Mr. Hacket.

- F. 135.** The left ramus of the mandible with m. 3 ; from the Narbada beds.

Collected by Mr. Hacket.

The reference of the following specimens from the Narbada beds to the present species is provisional :—

- F. 138** An incisor. *Collected by Mr. Hacket.*

- F. 139** The axis vertebra. *Collected by Mr. Hacket.*

B. Stegodon.

Elephas ganesa, Falc. and Caut.

"Fauna Antiqua Sivalensis," pt. 2, pl. xxi (1846).

- F. 170.** The left incisor; from the Narbada beds of Birman Ghat, near Biltari. Noticed in the 'Memoirs,' vol. ii, p. 291, and in the 'Records,' vol. x, p. 31. *Collected by Mr. Theobald, 1858.*

The following specimen belongs either to this species or to E. insignis, Falc. and Caut:—

- F. 174.** Part of the left ramus of the mandible showing six ridges of a true molar; from the Narbada beds of Birman Ghat. Noticed in the 'Journ. As. Soc. Beng.' vol. xix, p. 489. *A. S. B. Collection (No. N. 1). Dr. Spilsbury.*

The Museum also possesses numerous limb-bones of Elephas from the Narbada beds, the majority of which probably belong to E. namadicus. These specimens are Nos. N. 7, 8, 9, 10, 11, 12, 13 of Falconer's Catalogue of the A. S. B. Collection.

Class REPTILIA.

Order CHELONIA.

Family EMYDIDÆ.

Genus PANGSHURA, Gray.

"Catalogue of Shield-Reptiles," pt. i, p. 36 (1855).

Pangshura flaviventris, Günther.

"Reptiles of British India," p. 35 (1864).

- F. 110.** The shell; from the Narbada beds. Figured in the 'Records,' vol. ii, pl. ii, fig. 1 (as *P. testum*), and in the 'Pal. Ind.' ser. 10, vol. iii, pl. xxxii, figs. 2, 10. *Collected by Mr. Theobald, 1858.*

- F. 111.** The shell of a *Pangshura*, perhaps belonging to the present species; from the Narbada beds. Noticed in the 'Pal. Ind., op. cit., p. 183. *Collected by Mr. Hackett.*

Genus **BATAGUR**, Gray.

"Catalogue of Shield-Reptiles," pt. 1, p. 35 (1855).

Batagur (*cf. dhongoka*, Gray).

F. 108. Left half of hinder part of plastron; from the Narbada beds.

Fig. Figured in the 'Records,' vol. ii, pl. i, fig. 3, and noticed in the 'Pal. Ind.' ser. 10, vol. iii, pp. 193-94.

Collected by Mr. Theobald, 1858.

Specifically undetermined specimen.

F. 128. Fragment of the shell; from the Jamna beds.

Presented by Mr. J. Cockburn, 1881.

Family **TRIONYCHIDÆ**.Genus **TRIONYX**, Geoffroy.

'Ann. d. Muséum,' vol. xiv, p. 1 (1809).

Trionyx, sp.

F. 109. Two fragments of the plastron; from the Narbada beds.

Fig. Figured in the 'Records,' vol. ii, pl. i, figs. 4, 5 (and provisionally referred to *T. gangeticus*), and noticed in the 'Pal. Ind.' ser. 10, vol. iii, p. 204.

Collected by Mr. Theobald, 1858.

F. 129. Fragment of a shell; from the Jamna beds.

Presented by Mr. J. Cockburn, 1880.

Order **CROCODILIA**.Family **CROCODILIDÆ**.

Genus *non-det.*

F. 112. A vertebra; from the Narbada beds.

(?) Collected by Mr. Theobald, 1858.

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